



Overzicht van Europese normen

Machinerichtlijn 2006/42/EG

2018

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Inleiding

Deze uitgave bevat een overzicht van Europese normen en normontwerpen die gekoppeld zijn aan de Machinierichtlijn. Wat is precies de relatie tussen deze richtlijn en de normen? Hoe komen ze tot stand en welke type normen zijn er? Een korte toelichting.

Europese productrichtlijnen en normen

Om de Europese interne markt te bevorderen zijn er 25 Europese productrichtlijnen, waaronder de Machinierichtlijn. Deze richtlijnen hebben een wettelijk karakter en stellen in de verschillende EU-lidstaten dezelfde eisen aan productveiligheid. De EU-lidstaten zijn verplicht de productrichtlijnen te implementeren in hun nationale wetgeving.

De productrichtlijnen geven alleen de essentiële veiligheids- en gezondheidseisen voor een bepaald product. De details staan in Europese normen. Een norm is geen wettelijk document, maar is eenvoudig gezegd een praktisch hulpmiddel om aan een gedeelte van de wettelijke eisen te voldoen.

Een norm is geharmoniseerd als deze als Europese norm is aangenomen en gepubliceerd via de *Official Journal* van de Europese Unie. Als een geharmoniseerde Europese norm wordt gevuld, dan bestaat het 'vermoeden van overeenstemming' met de wettelijke eisen uit de desbetreffende productrichtlijn.

Via de website <http://ec.europa.eu/growth> zijn alle Europese productrichtlijnen te downloaden in de verschillende officiële Europese talen. Ook zijn hier toelichtende gidsen en lijsten met geharmoniseerde Europese normen te vinden.

Normalisatie

Een norm is een vrijwillige afspraak tussen partijen over een product, dienst of proces. Normen zijn geen wetten, maar best practices. Normalisatie is het proces om te komen tot een norm. Dit proces is open, transparant en gericht op consensus. Het vindt plaats in normcommissies, die bestaan uit vertegenwoordigers van alle betrokken partijen. Dit gebeurt niet alleen op nationaal niveau, maar ook in Europees en mondial verband.

De begeleiding van het ontwikkelingsproces van Europese normen ligt bij de organisaties CEN, CENELEC en ETSI. Ze hebben elk hun eigen aandachtsgebied: CEN voor algemene normen, CENELEC voor elektrotechnische normen en ETSI voor normen in de telecommunicatiebranche. De normalisatie-instituten ISO, IEC en ITU doen dit op mondial niveau. Daarbij heeft ISO een brede focus, is IEC gericht op de ontwikkeling van elektrotechnische normen en houdt ITU zich met de normontwikkeling voor de telecommunicatie bezig.

Veel geharmoniseerde Europese normen die gekoppeld zijn aan de Machinerichtlijn, zijn EN-ISO- of EN-IEC-normen. Dit betekent dat de internationale norm Europees is overgenomen.

In Nederland ondersteunen NEN en NEC het normalisatieproces. NEN richt zich op algemene normen en NEC is verantwoordelijk voor normalisatie op het gebied van elektrotechniek en ICT. Ze werken nauw samen.

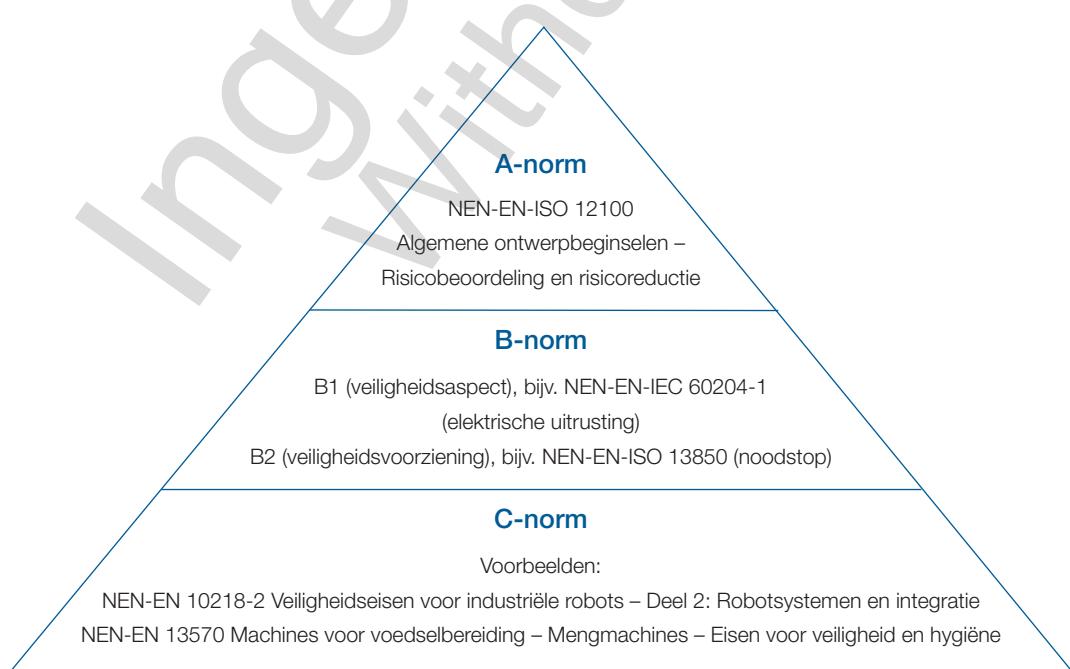
Machinerichtlijn en bijbehorende normen

De eerste Machinerichtlijn dateert van 1989 (Richtlijn 89/392/EEG). De huidige Machinerichtlijn is de Richtlijn 2006/42/EG. Deze is sinds eind 2009 van kracht.

De Machinerichtlijn heeft een breed toepassingsgebied. Naast machines behoren niet-voltooide machines, hijs- en hefwerktuigen, verwisselbare uitrustingsstukken, hijsbanden, hijskettingen, hijskabels, veiligheidsc�件en en verwijderbare mechanische overbrengingssystemen tot het toepassingsgebied van de Machinerichtlijn.

Vanwege dit brede toepassingsgebied en de grote diversiteit aan machines zijn er veel (bijna 800) Europese normen gekoppeld aan de Machinerichtlijn. Deze normen zijn ingedeeld in de volgende drie categorieën:

- **Type A-normen** (fundamentele veiligheidsnormen): deze geven de basisbegrippen, ontwerpbeginselementen en algemene aspecten die voor alle machines kunnen worden toegepast.
- **Type B-normen** (generieke veiligheidsnormen): deze behandelen één veiligheidsaspect of één type beveiligingsvoorziening dat voor een breed scala van machines kan worden gebruikt.
 - **Type B1**-normen behandelen specifieke veiligheidsaspecten (bijvoorbeeld veiligheidsafstanden, oppervlaktemperatuur, geluid).
 - **Type B2**-normen gaan over veiligheidsvoorzieningen (bijvoorbeeld tweehandenbediening, vergrendelingsinrichtingen, drukgevoelige voorzieningen, afschermingen).
- **Type C-normen** (machineveiligheidsnormen): deze behandelen gedetailleerde veiligheidseisen voor een bepaalde machine of groep van machines.



Figuur 1 Type A-, B- en C-normen

Een groot aantal A- en B-normen is in de loop van de jaren van nummer gewijzigd. Dit komt omdat deze normen nu ook als ISO- of IEC-normen bestaan. In tabel 1 staan van een aantal gangbare A- en B-normen de oude, de nieuwe en toekomstige nummers. In veel specifieke machinenormen (C-normen) wordt nog steeds verwezen naar de oude normnummers. Bij een herziening van die normen zal dat worden aangepast.

Tabel 1 Oude en nieuwe nummering normen

Onderwerp	Oud nummer	Huidig nummer [Toekomstig nummer]
Principes voor risicobeoordeling	NEN-EN 1050:1997 NEN-EN-ISO 14121-1:2007	NEN-EN-ISO-12100:2010
Algemene ontwerpbeginseisen – Risicoreductie	NEN-EN 292-1:1994 NEN-EN 292-2:1996 NEN-EN-ISO 12100-1:2003 NEN-EN-ISO 12100-2:2003	NEN-EN-ISO-12100:2010
Veiligheidsafstanden ter voorkoming van het bereiken van gevaarlijke zones	NEN-EN 294:1994 NEN-EN 811:1996	Samengevoegd tot NEN-EN-ISO 13857:2008
De plaatsing van beveiligingsinrichtingen in verband met naderingssnelheden van lichaamsdelen	NEN-EN 999:1998+A1:2008	NEN-EN-ISO 13855:2010
Blokkeerinrichtingen gekoppeld aan afschermingen – Grondbeginseisen voor het ontwerp en de keuze	NEN-EN 1088:1996+A2:2008	NEN-EN-ISO 14119:2013
Noodstop – Ontwerpbeginseisen	NEN-EN 418:1994	NEN-EN-ISO 13850:2015
Tweehandenbediening – Functionele aspecten – Grondslagen voor het ontwerp	NEN-EN 574:1997+A1:2008	NEN-EN 574:1997+A1:2008 [NEN-EN-ISO 13851]
Voorkoming van onbedoeld starten	NEN-EN 1037:1996+A1:2008	NEN-EN-ISO 14118:2018
Onderdelen van besturingssystemen met een veiligheidsfunctie Algemene ontwerpbeginseisen	NEN-EN 954-1:1997 NEN-EN-ISO 13849-1:2008 (Categorieën)	NEN-EN-ISO 13849-1:2016 (PL = Performance Level) NEN-EN-IEC 62061:2015 (SIL = Safety Integrity Level)

Laagspanningsrichtlijn

De Laagspanningsrichtlijn 2014/35/EU (voorheen 73/23/EEG en 2006/95/EG) is van toepassing op elektrisch materiaal bestemd voor:

- een nominale wisselspanning tussen 50 V AC en 1000 V AC;
- een nominale gelijkspanning tussen 75 V DC en 1500 V DC.

De Machinerichtlijn en de Laagspanningsrichtlijn sluiten elkaar uit. Als voor een machine de risico's hoofdzakelijk van elektrische oorsprong zijn, is op die machine niet de Machinerichtlijn maar de Laagspanningsrichtlijn van toepassing. Een misvatting is dat het bij de Laagspanningsrichtlijn alleen om de gevaren gaat die rechtstreeks verband houden met elektriciteit. De toelichting op de Laagspanningsrichtlijn geeft aan dat de richtlijn alle risico's afdekt die ontstaan bij het gebruik van elektrische apparatuur. Dus niet alleen elektrische risico's, maar bijvoorbeeld ook mechanische en chemische risico's.

In de Machinerichtlijn (artikel 1, lid 2k) staat een opsomming van een aantal 'machines' die niet onder de Machinerichtlijn vallen maar onder de Laagspanningsrichtlijn. Het gaat om de volgende producten:

- huishoudelijke apparaten die voor privégebruik zijn bestemd;
- audio- en videoapparatuur;
- apparatuur die wordt gebruikt in de informatietechnologie;
- gewone kantoorapparatuur;
- schakelmaterieel en besturingsapparatuur voor laagspanning;
- elektromotoren.

De norm NEN-EN-IEC 60335-1 geeft de algemene veiligheidseisen voor huishoudelijke en soortgelijke elektrische toestellen. De normenreeks NEN-EN-IEC 60335-2-X geeft bijzondere eisen voor specifieke elektrische toestellen en apparaten. Sommige van deze elektrische toestellen en apparaten kunnen in bepaalde gevallen binnen het toepassingsgebied van de Machinerichtlijn vallen. Dit is het geval als dergelijke toestellen en apparaten voor commercieel en/of industrieel gebruik worden ingezet. Diverse delen uit de normenreeks NEN-EN-IEC 60335-2-X zijn daarom ook geharmoniseerd onder de Machinerichtlijn 2006/42/EG.

NEN-EN-IEC 60335-1 bevat een uitgebreide tabel waarin staat of een bepaald deel uit de normenreeks NEN-EN-IEC 60335-2-X onder de Machinerichtlijn, de Laagspanningsrichtlijn of beide richtlijnen valt. Zie een gedeeltelijke weergave in figuur 2.

Standard reference	To be listed under LVD (2006/95/EC)	To be listed under MD (2006/42/EC)
EN 60335-2-27, Appliances for skin exposure to ultraviolet and infrared radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> With moving parts
EN 60335-2-28, Sewing machines	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-29, Battery chargers	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-30, Room heaters	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-31, Range hoods and other cooking fume extractors	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-32, Massage appliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-34, Motor-compressors	<input checked="" type="checkbox"/>	<input type="checkbox"/> LVD equipment for incorporation in machinery
EN 60335-2-35, Instantaneous water heaters	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-36, Commercial electric cooking ranges, ovens, hobs and hob elements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> With moving parts
EN 60335-2-37, Commercial electric deep fat fryers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> With moving parts
EN 60335-2-38, Commercial electric griddles and griddle grills	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EN 60335-2-39, Commercial electric multi-purpose cooking pans	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> With moving parts

Figuur 2 Normen die onder de Laagspanningsrichtlijn en/of de Machinerichtlijn vallen
(bron: NEN-EN-IEC 60335-1:2012)

Overzicht van Europese normen en normontwerpen

in het kader van de Machinerichtlijn (2006/42/EG)

Normen op het gebied van fundamentele veiligheidsprincipes - type A normen

Type A normen

NEN-EN-ISO 12100:2010

Veiligheid van machines - Algemene ontwerpbeginseisen - Risicobeoordeling en risicoreductie

ISO 12100 specificert de definities van risicobeoordeling en risicobeperking om ontwerpers te helpen bij het bereiken van deze doelstelling. Deze uitgangspunten zijn gebaseerd op kennis en ervaring van het ontwerp, gebruik, incidenten, ongevallen en risico's geassocieerd met machines. Procedures voor het identificeren en evalueren van relevante risico's in de levenscyclus van de machines en voor de uitbanning van risico's komen ook aan bod in ISO 12100, net als een nadere uitleg over het reduceren van risico's en het vermijden hiervan. ISO 12100 is bedoeld om ook gebruikt te worden als een basis voor de voorbereiding van type-B of type-C veiligheidsnormen. Cursus ISO 12100:Praktische cursus Instructie risicobeoordeling met specifieke aandacht voor de eisen die gesteld worden aan machines, het omschrijven van risico's en methodes om risico's te beoordelen.

Type A 2006/42/EG Geharmoniseerd

NEN-EN-ISO 12100:2010 nl

€ 224.52

NEN-EN-ISO 12100:2010 en

€ 161.21

Normen op het gebied van technische veiligheidsaspecten en -voorzieningen voor alle machines waarop die aspecten van toepassing zijn - type B normen

Veiligheidsvoorzieningen

NEN-EN 349:1994+A1:2008

Veiligheid van machines - Minimumafstanden ter voorkoming van het bekneld raken van menselijke lichaamsdelen

The object of this European Standard is to enable the user (e.g. standard makers, designers of machinery) to avoid hazards from crushing zones. It specifies minimum gaps relative to parts of the human body and is applicable when adequate safety can be achieved by this method. This European Standard is applicable to risks from crushing hazards only and is not applicable to other possible hazards, e.g. impact, shearing, drawing-in.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 349:1994+A1:2008 en

€ 49.30

NEN-EN 574:1997+A1:2008

Veiligheid van machines - Tweehandenbediening - Functionele aspecten - Grondslagen voor het ontwerp

This standard Specifies the safety requirements of a two-hand control device and its logic unit as defined in 3.1. Describes the main characteristics of two-hand control devices for the achievement of safety and sets out combinations of functional characteristics for three types. Does not apply to devices intended to be used as enabling devices, hold to run devices and as special control devices. This standard does not specify with which machines two-hand control devices shall be used. It also does not specify which types of two-hand-control device shall be used. Moreover it does not specify the distance between the two-hand control device and the danger zone (see 9.8). The standard provides requirements and guidance on the design and selection (based on a risk assessment) of two-hand control devices including their assessment, the prevention of defeat and the avoidance of faults. The standard also provides requirements and guidance for two-hand control devices containing a programmable electronic system (see 7). This standard applies to all two-hand control devices, independent of the energy used, including: - Two-hand control devices which are or are not integral parts of a machine; - Two-hand control devices which consist of one or more than one separate elements.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 574:1997+A1:2008 en

€ 61.30

NEN-EN 1093-1:2009

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 1: Keuze van de meetmethoden

This European Standard specifies parameters which can be used for the assessment of the emission of pollutants from machines or the performance of the pollutant control systems integrated in machines. It gives guidance on the selection of appropriate test methods according to their various fields of application and types of machines including the effects of measures to reduce exposures to pollutants. The test methods are given in additional parts of this European Standard (see Table 1 and Annex A).

Type B 2006/42/EG Geverifieerd

NEN-EN 1093-1:2009 en

€ 49.30

NEN-EN 1093-2:2007+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 2: Sporenmethode voor het beoordelen van de emissiewaarde van een bepaalde vervuilende stof

This European Standard specifies a method to enable measurements of the emission rates of gaseous substances from a single machine, whose operation can be controlled, using tracer gas techniques. This European Standard is not applicable to machinery which is manufactured before the date of its publication as an EN.

Type B 2006/42/EG Geverifieerd

NEN-EN 1093-2:2007+A1:2008 en

€ 49.30

NEN-EN 1093-3:2008+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 3: Emissiewaarde van een opgegeven vervuilende stof - Proefstandmethode met gebruik van de werkelijke vervuilende stof

This European Standard specifies a test bench method for the measurement of the emission rate of a given airborne hazardous substance from machines using a test bench under specified operating conditions of the machine. The measurement of the emission rates of a given pollutant emitted from machines can serve for: a) the evaluation of the performance of a machine; b) the evaluation of the reduction of pollutant emissions of the machine; c) the comparison of machines within groups of machines with the same intended use (groups are defined by the function and materials processed); d) the ranking of machines from the same group according to their emission rates; e) the determination of the state of the art of machines with respect to their emission rates.

Type B 2006/42/EG Geverifieerd

NEN-EN 1093-3:2008+A1:2008 en

€ 49.30

NEN-EN 1093-4:1996+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 4: Vangvermogen van een uitlaatsysteem - Sporenmethode

This standard describes a method for the measurement of the capture efficiency of an exhaust system installed on a machine. This method is based on a tracer technique and may be operated in all types of test environment (bench, room and field, see ENV 1093-1). This technique is applicable only if the tracer shows aerodynamic behaviour comparable with the real pollutant (see 7.1.1). The measurement of the capture efficiency of an exhaust system can serve for: a) The evaluation of the performance of an exhaust system of a machine; b) The evaluation of the improvement of an exhaust system c) The comparison of exhaust systems for machines of similar design; d) The ranking of exhaust systems according to their capture efficiency; e) The determination of the air flow rate of an exhaust system to achieve a given level of capture efficiency; f) The determination of the state of the art of exhaust systems for machines with respect to the capture efficiency,

Type B 2006/42/EG Geverifieerd

NEN-EN 1093-4:1996+A1:2008 en

€ 49.30

NEN-EN 1093-6:1998+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 6: Massascheidingsrendement, vrije uitlaat

This European Standard specifies a test rig method for the measurement of the separation efficiency by mass of air cleaning systems with unducted outlet, operating under defined conditions. The method shall apply to systems that clean air of aerosols (smoke, dust, fume, mist), vapour or gas. Measurement of the separation efficiency by mass of an air cleaning system for an intended use can serve for the: a) evaluation of the performance of an air cleaning system; b) evaluation of the improvement of the air cleaning system; c) comparison of air cleaning systems; d) ranking of air cleaning systems according to their separation efficiency by mass; e) determination of the state of the art of air cleaning systems of the same intended use with respect to their separation efficiency by mass.

Type B 2006/42/EG Geverifieerd

NEN-EN 1093-6:1998+A1:2008 en

€ 49.30

NEN-EN 1093-7:1998+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 7: Massascheidingsrendement, geleide uitlaat

This European Standard specifies a test rig method for the measurement of the separation efficiency by mass of air cleaning systems, operating under defined conditions. The method shall apply to systems that clean air of aerosols (smoke, dust, fume, mist), vapour or gas with defined air inlet and air outlet which can be connected to measurement ducts. Measurement of the separation efficiency by mass of an air cleaning system for an intended use can serve for the: a) evaluation of the performance of an air cleaning system; b) evaluation of the improvement of the air cleaning system; c) comparison of air cleaning systems; d) ranking of air cleaning systems according to their separation efficiency by mass; e) determination of the state of the art of air cleaning systems of the same intended use with respect to their separation efficiency by mass.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1093-7:1998+A1:2008 en

€ 49.30

NEN-EN 1093-8:1998+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 8: Parameter voor de concentratie aan vervuilende stof, proefstandmethode

This European Standard specifies a test bench method for the measurement of the pollutant concentration parameter of a specified airborne hazardous substance from machines using a test bench under specified operating conditions. This method is only applicable for the determination of emitted gases, vapours and respirable particles. The determination of the emission rate in a test bench (see EN 1093-3) shall be used when possible. Measurement of the pollutant concentration parameter of a machine can serve for the: a) evaluation of the performance of a machine; b) evaluation of the improvement of the machine; c) comparison of machines within groups of machines with the same intended use (groups are defined by the function and materials processed), d) ranking of machines from the same group according to their pollutant concentration parameters; e) determination of the state of the art of machines with respect to their pollutant concentration parameter.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1093-8:1998+A1:2008 en

€ 49.30

NEN-EN 1093-9:1998+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 9: Parameter voor de concentratie aan vervuilende stof, proefruimtemethode

This European Standard specifies a room method for the measurement of the pollutant concentration parameter of a specified airborne hazardous substance from machines, located in a test room and operating the machines under defined conditions. This method can only be used for machines with a local exhaust ventilation with an air flow rate $^3 500 \text{ m}^3/\text{h}$ and machines without recirculated air. Measurement of the pollutant concentration parameter of a machine can serve for the: a) evaluation of the performance of a machine; b) evaluation of the improvement of the machine; c) comparison of machines within groups of machines with the same intended use (groups are defined by the function and materials processed); d) ranking of machines from the same group according to their pollutant concentration parameters; e) determination of the state of the art of machines with respect to their pollutant concentration parameter.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1093-9:1998+A1:2008 en

€ 34.50

NEN-EN 1093-11:2001+A1:2008

Veiligheid van machines - Evaluatie van de emissie van gevaarlijke stoffen in de lucht - Deel 11: Decontaminatie-index

This standard describes a method for the measurement of the decontamination index of pollution control systems e. g. capture devices including local exhaust ventilation, water spray systems and, when appropriate, separation equipment installed on a machine. This method uses the real pollutant (see 4.2 of EN 1093-1 : 1998 " Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 1: Selection of test methods") and can be operated in room or field environments. It should be observed that during the test, especially during the shutdown or the removal of the pollution control system, the concentration of hazardous substances , if present, can reach levels which are liable to incur a risk to the health of the operators or other occupants present in the room. Measurement of the decontamination index of pollution control system can serve for the: - evaluation of the performance of a pollution control system of a machine; - evaluation of the improvement of a pollution control system; - comparison of pollution control systems for machines of similar design; - ranking of pollution control systems according to their decontamination efficiency; - determination of the air flow rate in the case of an exhaust system to achieve a given level; - determination of the state of the art of pollution control systems for machines with respect to the decontamination efficiency.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1093-11:2001+A1:2008 en

€ 49.30

NEN-EN-ISO 4413:2010

Hydrauliek - Algemene regels en veiligheidseisen voor systemen en hun componenten

This International Standard specifies general rules and safety requirements for hydraulic fluid power systems and components used on machinery as defined by ISO 12100:2010, 3.1. It deals with all significant hazards associated with hydraulic fluid power systems and specifies the principles to apply in order to avoid those hazards when the systems are put to their intended use.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 4413:2010 en

€ 143.10

NEN-EN-ISO 4414:2010**Pneumatiek - Algemene regels en veiligheidseisen voor systemen en hun onderdelen**

This International Standard specifies general rules and safety requirements for pneumatic fluid power systems and components used on machinery as defined by ISO 12100:2010, 3.1. It deals with all significant hazards associated with pneumatic fluid power systems and specifies principles to apply in order to avoid those hazards when the systems are put to their intended use.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 4414:2010 en

€ 143.10

NEN-EN-ISO 11161:2007**Veiligheid van machines - Geïntegreerde productiesystemen - Algemene eisen**

Deze internationale norm legt veiligheidseisen vast voor geïntegreerde productiesystemen (IMS) die bestaan uit ten minste twee onderling verbonden machines voor specifieke toepassingen, zoals de fabricage van componenten of het samenbouwen. Hij geeft eisen en aanbevelingen voor een veilig ontwerp, de beveiliging en de informatie voor het gebruik van een dergelijk IMS.(zie figuur 1 voor de basisopstelling van een IMS). Deze internationale norm is niet bedoeld voor de behandeling van veiligheidsaspecten van de afzonderlijke machines en uitrusting welke worden behandeld in de normen die specifiek bedoeld zijn voor die machines en uitrusting. Daarom behandelt hij alleen die veiligheidsaspecten die van belang zijn voor een veilige samenstelling van de machines en componenten. Indien machines en uitrusting van een geïntegreerd productiesysteem gescheiden of afzonderlijk worden bediend, en de beschermende effecten van de beveiligingen ten behoeve van de geïntegreerde productie afwezig zijn, zijn de voor die machines en uitrusting relevante normen van toepassing.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11161:2007 nl

€ 179.15

NEN-EN-ISO 11161:2007 en

€ 143.10

NEN-EN-ISO 11161:2007/A1:2010**Veiligheid van machines - Geïntegreerde productiesystemen - Algemene eisen**

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11161:2007/A1:2010 en

€ 14.49

NEN-EN 12198-1:2000+A1:2008**Veiligheid van machines - Beoordeling en verminderen van het gevaar veroorzaakt door straling uitgezonden door machines - Deel 1: Algemene beginselen**

This standard deals with the emission of radiation from machinery. This European Standard gives advice to manufacturers for the construction of safe machinery, if no relevant C-type standard exists. This radiation emission may be functional for processing or may be undesirable. The issues of electromagnetic compatibility are not addressed in the standard. This European Standard is intended to give advice to C-type standardization groups, on how to identify radiation emissions or fields, how to determine their significance and intensity, how to assess the possible risks and what means may be used to avoid or reduce radiation emissions. This advice should be elaborated in C-type standards for specific classes of machines as assessable requirements. This standard deals with the emission of all types of electromagnetic non-ionizing radiation. Ionizing radiation may be dealt with in other documents or in the future revisions. This standard does not deal with the emission of laser radiation. Radiation sources fixed to a machine which are used only for lighting are excluded from the scope of this standard. This standard applies to machinery as defined in clause 3.1 of EN 292-1:1991.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 12198-1:2000+A1:2008 en

€ 61.30

NEN-EN 12198-2:2003+A1:2008**Veiligheid van machines - Beoordeling en verminderen van de risico's veroorzaakt door straling uitgezonden door machines - Deel 2: Meetprocedure voor de stralingsemisie**

This European Standard defines basic technology and specifies general procedures for making and reporting measurements of quantities related to radiation emitted by machinery. It covers the different radiation emissions as defined in EN 12198-1. This standard applies to machinery as defined in 3.1 of EN 292-1:1991.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 12198-2:2003+A1:2008 en

€ 49.30

NEN-EN 12198-3:2003+A1:2008**Veiligheid van machines - Beoordeling en verminderen van het gevaar veroorzaakt door straling uitgezonden door machines - Deel 3: Verminderen van straling door verzwakking of afscherming**

The purpose of this European standard is to provide means to enable manufacturers of machinery concerned by a radiation hazard to design and manufacture efficient safeguards against radiations. Specific technical details of the design of shields for the different types of radiation and machines will be provided in other standards. This European standard applies to machinery as defined by EN 292. Part 1 of this standard contains the general principles of risk assessment of radiation emission by machinery. Details of the measurement of the radiation emission are given in Part 2 of this standard. This standard deals with a design strategy for reducing the radiation flux by attenuation or screening.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 12198-3:2003+A1:2008 en

€ 49.30

NEN-EN-ISO 13849-1:2016

Veiligheid van machines - Veiligheidsgerelateerde delen van besturingssystemen - Deel 1: Algemene beginselen voor het ontwerp

NEN-EN-ISO 13849-1 provides safety requirements and guidance on the principles for the design and integration of safety-related parts of control systems (SRP/CS), including the design of software. For these parts of SRP/CS, it specifies characteristics that include the performance level required for carrying out safety functions. It applies to SRP/CS for high demand and continuous mode, regardless of the type of technology and energy used (electrical, hydraulic, pneumatic, mechanical, etc.), for all kinds of machinery. It does not specify the safety functions or performance levels that are to be used in a particular case. This part of ISO 13849 provides specific requirements for SRP/CS using programmable electronic system(s). It does not give specific requirements for the design of products which are parts of SRP/CS. Nevertheless, the principles given, such as categories or performance levels, can be used.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 13849-1:2016 en

€ 179.33

NEN-EN-ISO 13849-2:2012

Veiligheid van machines - Onderdelen van besturingssystemen met een veiligheidsfunctie - Deel 2: Validatie

This part of ISO 13849 specifies the procedures and conditions to be followed for the validation by analysis and testing of - the specified safety functions, - the category achieved, and - the performance level achieved by the safety-related parts of a control system (SRP/CS) designed in accordance with ISO 13849-1.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 13849-2:2012 en

€ 161.21

NEN-EN-ISO 13850:2015

Veiligheid van machines - Noodstopfunctie - Ontwerpbeginselen

NEN-EN-ISO 13850 specifies functional requirements and design principles for the emergency stop function on machinery, independent of the type of energy used. It does not deal with functions such as reversal or limitation of motion, deflection of emissions (e.g. radiation, fluids), shielding, braking or disconnecting, which can be part of the emergency stop function. The requirements for this International Standard apply to all machines, with exception to: - machines where an emergency stop would not reduce the risk; - hand-held or hand-operated machines

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 13850:2015 en

€ 52.53

NEN-EN-ISO 13855:2010

Veiligheid van machines - Positionering van beveiligingsinrichtingen in verband met de naderingssnelheden van delen van het menselijk lichaam

Deze internationale norm stelt de plaatsing vast van beveiligingsvoorzieningen in verband met de naderingssnelheden van lichaamsdelen. Hij specificeert parameters die zijn gebaseerd op waarden voor naderingssnelheden van lichaamsdelen en geeft een methode om de minimumafstanden te bepalen tot een gevaarlijke zone vanaf de detectiezone of vanaf de bedieningsvoorzieningen van beveiligingsvoorzieningen. De waarden voor naderingssnelheden (loopsnelsheid en armbeweging) in deze internationale norm zijn langdurig beproefd en hebben zich in de praktijk bewezen. Deze internationale norm geeft een leidraad voor bepaalde naderingswijzen. Andere naderingswijzen, zoals rennen, springen of vallen, worden in deze internationale norm buiten beschouwing gelaten.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 13855:2010 nl

€ 179.15

NEN-EN-ISO 13855:2010 en

€ 143.10

NEN-EN-ISO 13856-1:2013

Machineveiligheid - Drukgevoelige beschermingsmiddelen - Deel 1: Algemene principes voor ontwerp en beproeven van drukgevoelige matten en vloeren

This part of ISO 13856 establishes general principles and specifies requirements for the design and testing of pressure-sensitive mats and pressure-sensitive floors normally actuated by the feet for use as devices for protecting persons from hazardous machinery. The minimum safety requirements for the performance, marking and documentation are given. This part of ISO 13856 is applicable to pressure-sensitive mats and pressure-sensitive floors, regardless of the type of energy used (e.g. electrical, hydraulic, pneumatic or mechanical), designed to detect - persons weighing more than 35 kg, and - persons (e.g. children) weighing more than 20 kg. It is not applicable to the detection of persons weighing less than 20 kg. It does not specify the following because they are application-specific: a) dimensions or configuration of the effective sensing area of pressure-sensitive mat(s) or pressuresensitive floor(s) in relation to any particular application; b) when pressure-sensitive mats or floors are appropriate in a particular situation; c) performance levels (PLs) for safety-related parts of control systems (SRP/CSs) other than providing a minimum level. This part of ISO 13856 gives guidance to assist the user (i.e. machinery manufacturer and/or user of the machinery) in providing an adequate arrangement.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 13856-1:2013 en

€ 143.10

NEN-EN-ISO 13856-2:2013

Machineveiligheid - Drukgevoelige beschermingsmiddelen - Deel 2: Algemene principes voor het ontwerp en beproeving van drukgevoelige lijsten en drukgevoelige beugels

This part of ISO 13856 establishes general principles and specifies requirements for the design and testing of pressure-sensitive edges and pressure-sensitive bars used as safeguards and not as actuating devices for normal operation. This part of ISO 13856 is applicable to pressure-sensitive edges and pressure-sensitive bars, with or without an external reset facility, used to detect persons or body parts that can be exposed to hazards such as those caused by the moving parts of machines. It is not applicable to - determining the suitability of a pressure-sensitive edge or pressure-sensitive bar for a particular safeguarding application, - selection of an appropriate performance level for safety-related parts of control systems (SRP/CSs) other than to give minimum values, - dimensioning or configuring of the effective sensing area of pressure-sensitive edges or pressuresensitive bars in relation to any particular application, - stopping devices according to IEC 60204-1 used only for normal operation, including emergency stopping of machinery. Requirements for the information to be provided by the manufacturer are given to assist in the selection of a suitable pressure-sensitive edge or pressure-sensitive bar and its application. Additional requirements can be necessary where pressure-sensitive edges or pressure-sensitive bars are used in locations accessible to elderly or disabled people or children.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 13856-2:2013 en

€ 161.21

NEN-EN-ISO 13856-3:2013

Veiligheid van machines - Drukgevoelige beschermingsinrichtingen - Deel 3: Algemene principes voor het ontwerp en beproeving van drukgevoelige lijsten, platen, draden en dergelijke inrichtingen

This part of ISO 13856 establishes general principles and specifies requirements for the design and testing of those pressure-sensitive protective devices, with or without an external reset facility, that are not specified in either ISO 13856-1 or ISO 13856-2, and the majority of which are produced for specific applications and are not available as "off-the-shelf" items. This part of ISO 13856 also gives specific requirements for the following pressure-sensitive protective devices: a) pressure-sensitive bumpers; b) pressure-sensitive plates; c) pressure-sensitive wires (trip wires). It deals with the design of a pressure-sensitive device with regard to safety and reliability rather than its suitability for particular applications. It is not applicable to - specifying the dimensions of pressure-sensitive protective devices in relation to any particular application, or - stopping devices according to IEC 60204-1 used for the normal operation, including emergency stopping of machinery. Additional requirements can be necessary where pressure-sensitive protective devices are used in locations accessible to elderly or disabled people or children.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 13856-3:2013 en

€ 161.21

NEN-EN-ISO 13857:2008

Veiligheid van machines - Veiligheidsafstanden ter voorkoming van het bereiken van gevaarlijke zones door bovenste en onderste ledematen

Deze internationale norm geeft waarden voor veiligheidsafstanden in zowel industriële als niet-industriële omgevingen, ter voorkoming van het bereiken van gevaarlijke zones van machines. De veiligheidsafstanden zijn geschikt voor beschermende constructies. Hij geeft ook informatie over afstanden die de vrije toegang door de onderste ledematen verhinderen (zie 4.3). Deze internationale norm is van toepassing op personen van 14 jaar en ouder (het 5e percentiel voor de lengte van personen van 14 jaar is ongeveer 1 400 mm). Voor de bovenste ledematen geeft hij bovendien informatie voor kinderen ouder dan 3 jaar (het 5e percentiel voor de lengte van personen van 3 jaar is ongeveer 900 mm) indien het reiken door openingen in beschouwing moet worden genomen.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 13857:2008 nl

€ 133.80

NEN-EN-ISO 13857:2008 en

€ 79.70

NEN-EN-ISO 14119:2013

Veiligheid van machines - Blokkeerinrichtingen gekoppeld aan afschermingen - Grondbeginselen voor het ontwerp en de keuze

This International Standard specifies principles for the design and selection - independent of the nature of the energy source - of interlocking devices associated with guards. This International Standard covers the parts of guards which actuate interlocking devices. This International Standard does not necessarily provide all the specific requirements for trapped key systems. This International Standard provides measures to minimize defeat of interlocking devices in a reasonably foreseeable manner.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14119:2013 en

€ 161.21

NEN-EN-ISO 14120:2015

Veiligheid van machines - Afschermingen - Algemene eisen voor het ontwerp en de constructie van vaste en beweegbare afschermingen

NEN-EN-ISO 14120 specifies general requirements for the design, construction, and selection of guards provided to protect persons from mechanical hazards. This International Standard indicates other hazards that can influence the design and construction of guards. This International Standard applies to guards for machinery which will be manufactured after it is published. The requirements are applicable if fixed and movable guards are used. This International Standard does not cover interlocking devices. These are covered in ISO 14119. This International Standard does not provide requirements for special systems relating specifically to mobility such as ROPS (rollover protective structures), FOPS (falling-object protective structures), and TOPS (tip over protective structures) or to the ability of machinery to lift loads.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14120:2015 en

€ 124.99

NEN-EN-ISO 14122-1:2016

Veiligheid van machines - Permanente toegangsmiddelen tot machines - Deel 1: Keuze van vaste toegangsmiddelen en algemene vereisten voor toegankelijkheid

NEN-EN-ISO 14122-1 gives general requirements for access to stationary machines and guidance about the correct choice of means of access when necessary access to the stationary machine is not possible directly from the ground level or from a floor. It is applicable to permanent means of access which are a part of a stationary machine, and also to non-powered adjustable parts (e.g. foldable, slideable) and movable parts of fixed means of access. This part of ISO 14122 specifies minimum requirements that also apply when the same means of access is required as the part of the building or civil construction (e.g. working platforms, walkways, ladders) where the machine is installed, on condition that the main function of that part of the construction is to provide a means of access to the machine. It is intended that this part of ISO 14122 be used with a relevant access-specific part of ISO 14122. The ISO 14122 series as a whole is applicable to both stationary and mobile machinery where fixed means of access are necessary. It is not applicable to powered means of access such as lifts, escalators, or other devices specially designed to lift persons between two levels. This part of ISO 14122 is not applicable to machinery manufactured before the date of its publication. For the significant hazards covered by this part of ISO 14122, see Clause 4.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14122-1:2016 en

€ 52.53

NEN-EN-ISO 14122-2:2016

Veiligheid van machines - Permanente toegangsmiddelen tot machines - Deel 2: Werkbordessen en looppaden

NEN-EN-ISO 14122-2 gives requirements for non-powered working platforms and walkways which are a part of a stationary machine, and to the non-powered adjustable parts (e.g. foldable, sliding) and movable parts of those fixed means of access. This part of ISO 14122 specifies minimum requirements that also apply when the same means of access is required as the part of the building or civil construction (e.g. working platforms, walkways) where the machine is installed, on condition that the main function of that part of the construction is to provide a means of access to the machine. It is intended that this part of ISO 14122 be used with ISO 14122-1 to give the requirements for walking platforms and walkways. The ISO 14122 series as a whole is applicable to both stationary and mobile machinery where fixed means of access are necessary. It is not applicable to powered means of access such as lifts, escalators, or other devices specially designed to lift persons between two levels. This part of ISO 14122 is not applicable to machinery manufactured before the date of its publication.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14122-2:2016 en

€ 79.70

NEN-EN-ISO 14122-3:2001

Veiligheid van machines - Permanente toegangsmiddelen tot machines - Deel 3: Trappen, trapladders en leuningen

Applies to all machinery (stationary and mobile) where fixed means of access are necessary. This standard applies to stairways, stepladders and guard-rails which are a part of a machine. May also apply to stairs, step ladders and guard rails to that part of the building where the machine is installed, providing the main function of that part of the building is to provide a means of access to the machine.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14122-3:2001 nl

€ 133.80

NEN-EN-ISO 14122-3:2016

Veiligheid van machines - Permanente toegangsmiddelen tot machines - Deel 3: Trappen, trapladders en leuningen

NEN-EN-ISO 14122-3 gives requirements for non-powered stairs, stepladders and guard-rails which are a part of a stationary machine, and to the non-powered adjustable parts (e.g. foldable, slideable) and movable parts of those fixed means of access. This part of ISO 14122 specifies minimum requirements that also apply when the same means of access is required as the part of the building or civil construction (e.g. stairs, stepladders, guard-rails) where the machine is installed, on condition that the main function of that part of the construction is to provide a means of access to the machine. It is intended that this part of ISO 14122 be used with ISO 14122-1 to give the requirements for steps, stepladders and guard-rails. The ISO 14122 series as a whole is applicable to both stationary and mobile machinery where fixed means of access are necessary. It is not applicable to powered means of access such as lifts, escalators, or other devices specially designed to lift persons between two levels. This part of ISO 14122 is not applicable to machinery manufactured before the date of its publication.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14122-3:2016 en

€ 106.87

NEN-EN-ISO 14122-4:2016

Veiligheid van machines - Permanente toegangsmiddelen tot machines - Deel 4: Vaste ladders

NEN-EN-ISO 14122-4 gives requirements for fixed ladders which are a part of a stationary machine, and to the non-powered adjustable parts (e.g. foldable, slideable) and movable parts of fixed ladder systems. This part of ISO 14122 specifies minimum requirements that also apply when the same means of access is required as the part of the building or civil construction (e.g. fixed ladders) where the machine is installed, on condition that the main function of that part of the construction is to provide a means of access to the machine. It is intended that this part of ISO 14122 be used with ISO 14122-1 to give the requirements for fixed ladder systems. The ISO 14122 series as a whole is applicable to both stationary and mobile machinery where fixed means of access are necessary. It is not applicable to powered means of access such as lifts, escalators, or other devices specially designed to lift persons between two levels. This part of ISO 14122 is not applicable to machinery manufactured before the date of its publication.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14122-4:2016 en

€ 143.10

NEN-EN-ISO 14123-1:2015

Veiligheid van machines - Verlaging van gezondheidsrisico's tengevolge van de uitstoot van gevaarlijke stoffen door machines - Deel 1: Grondbeginselen en specificaties voor fabrikanten van machines

NEN-EN-ISO 14123-1 establishes principles for the control of risks to health resulting from hazardous substances emitted by machinery. This part of ISO 14123 is not applicable to substances that are a hazard to health solely because of their explosive, flammable or radioactive properties or their behaviour at extremes of temperature or pressure.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 14123-1:2015 en

€ 52.53

NEN-EN-ISO 14159:2008

Machineveiligheid - Hygiëne-eisen voor het ontwerpen van machines

This International Standard specifies hygiene requirements of machines and provides information for the intended use to be provided by the manufacturer. It applies to all types of machines and associated equipment used in applications where hygiene risks to the consumer of the product can occur.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 14159:2008 en

€ 124.99

NEN-EN-ISO 19353:2016

Machineveiligheid - Brandpreventie en -beveiliging

NEN-EN-ISO 19353 specifies methods for identifying fire hazards resulting from machinery and for performing a risk assessment. It gives the basic concepts and methodology of protective measures for fire prevention and protection to be taken during the design and construction of machinery. The measures consider the intended use and reasonably foreseeable misuse of the machine. It provides guidelines for consideration in reducing the risk of machinery fires to acceptable levels through machine design, risk assessment and operator instructions. This International Standard is not applicable to - mobile machinery, - machinery designed to contain controlled combustion processes (e.g. internal combustion engines, furnaces), unless these processes can constitute the ignition source of a fire in other parts of the machinery or outside of this, - machinery used in potentially explosive atmospheres and explosion prevention and protection, and - fire detection and suppression systems that are integrated in building fire safety systems. It is also not applicable to machinery or machinery components manufactured before the date of its publication.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 19353:2016 en

€ 124.99

NPR-CEN-ISO/TR 22100-1:2017

Veiligheid van machines - Verwantschap met ISO 12100 - Deel 1: Welk verband is er tussen ISO 12100 en de type B en C normen.

NPR-CEN-ISO/TR 22100-1 provides assistance to the designer/manufacturer of machinery and related components as to how the system of existing type-A, type-B and type-C machinery safety standards should be applied in order to design a machine to achieve a level of tolerable risk by adequate risk reduction. It explains the general principles of ISO 12100 and how this type-A standard should be used for practical cases in conjunction with type-B and type-C machinery safety standards. This part of ISO/TR 22100 provides assistance to standards writing committees on how ISO 12100 and type-B and type-C standards relate and explains their function in the risk assessment and risk reduction process according to ISO 12100. It includes an overview of existing categories of type-B standards to assist standards readers and writers to navigate the many standards.

Type B

NPR-CEN-ISO/TR 22100-1:2017 en

€ 79.70

Elektrische veiligheid

NEN-EN-IEC 60204-1:2006

Veiligheid van machines - Elektrische uitrusting van machines - Deel 1: Algemene eisen

Dit deel van IEC 60204 geldt voor de toepassing van elektrische, elektronische en programmeerbare elektronische uitrusting en systemen voor machines die tijdens bedrijf niet in de hand worden vastgehouden, met inbegrip van een groep gecoördineerd samenwerkende machines. De uitrusting waarop dit deel van IEC 60204 van toepassing is, begint op het punt waar de elektrisch e uitrusting van de machine op de elektrische voeding is aangesloten (zie 5.1). Dit deel van IEC 60204 geldt voor elektrische uitrusting of delen daarvan die werken op een nominale voedingsspanning van ten hoogste 1 000 V wisselspanning of 1 500 V gelijkspanning tussen de fasen en een nominale frequentie van ten hoogste 200 Hz. Dit deel van IEC 60204 bevat niet alle eisen (bijvoorbeeld afscherming, vergrendeling of besturing) welke op grond van andere normen of verordeningen noodzakelijk of vereist zijn om personen te beschermen tegen andere gevaren dan elektrische. Voor elk type machine gelden specifieke eisen waaraan ten behoeve van voldoende veiligheid moet worden voldaan. Dit deel omvat specifiek, maar is niet beperkt tot, de elektrische uitrusting van machines zoals gedefinieerd in 3.35.

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 60204-1:2006 nl

€ 300.00

NEN-EN-IEC 60204-1:2006 en

€ 298.88

NEN-EN-IEC 60204-1:2006/A1:2009

Veiligheid van machines - Elektrische uitrusting van machines - Deel 1: Algemene eisen

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 60204-1:2006/A1:2009 nl

€ 20.00

NEN-EN-IEC 60204-1:2006/A1:2009 en

€ 9.06

NEN-EN-IEC 60204-1:2006/C11:2010

Veiligheid van machines - Elektrische uitrusting van machines - Deel 1: Algemene eisen

Type B 2006/42/EG Geharmoniseerd	€ 0.00
NEN-EN-IEC 60204-1:2006/C11:2010 nl	€ 0.00
NEN-EN-IEC 60204-1:2006/C11:2010 en	

NEN-EN-IEC 60204-11:2000

Veiligheid van machines - Elektrische uitrusting van machines - Deel 11: Eisen voor hoogspanningsapparatuur voor spanningen hoger dan 1000 V wisselspanning maar niet hoger dan 36 kV

Applies to the electrical and electronic equipment and systems of machines, including a group of machines working together in a coordinated manner, by excluding higher level system aspects (i.e. communications between systems).

Type B 2006/42/EG Geharmoniseerd	€ 224.35
NEN-EN-IEC 60204-11:2000 en;fr	

NEN-EN-IEC 60204-11:2000/C11:2010

Veiligheid van machines - Elektrische uitrusting van machines - Deel 11: Eisen voor hoogspanningsapparatuur voor spanningen hoger dan 1000 V wisselspanning maar niet hoger dan 36 kV

Type B 2006/42/EG Geharmoniseerd	€ 0.00
NEN-EN-IEC 60204-11:2000/C11:2010 en;fr	

NEN-EN-IEC 60204-32:2008

Veiligheid van machines - Elektrische uitrusting van machines - Deel 32: Eisen voor hef- en hijswerk具gen

This part of IEC 60204 applies to the application of electrical and electronic equipment and systems to hoisting machines and related equipment. The equipment covered by this standard commences at the point of connection of the supply to the electrical equipment of the hoisting machine (crane-supply-switch) including systems for power supply and control feeders situated outside of the hoisting machine, for example, flexible cables or conductor wires or conductor bars (see Figure 3). This standard is applicable to equipment or parts of equipment not exceeding 1 000 V a.c. or 1 500 V d.c. between lines and with nominal frequencies not exceeding 200 Hz. Additional and special requirements can apply to the electrical equipment of hoisting machines including those that - are intended for use in open air (i.e., outside buildings or other protective structures); - handle or transport potentially explosive material (for example, paint or sawdust); - are intended for use in potentially explosive and/or flammable atmospheres; - are intended for use in mines. For the purposes of this standard, hoisting machines include cranes of all types, winches of all types, and storage and retrieval machines. The following product groups are included: - overhead travelling cranes; - mobile cranes; - tower cranes; - slewing luffing cranes; - gantry cranes; - offshore cranes; - floating cranes; - winches of all types; - hoists and accessories; - loader cranes; - cable cranes; - load holding devices; - storage and retrieval machines; - monorail hoists; - straddle carriers; - rubber tyred gantry cranes (RTGs). This standard does not cover individual items of electrical equipment other than their selection for use and their erection.

Type B 2006/42/EG Geharmoniseerd	€ 298.88
NEN-EN-IEC 60204-32:2008 en	

NEN-EN-IEC 60204-33:2011

Veiligheid van machines - Elektrische uitrusting van machines - Deel 33: Eisen voor machines voor fabricage van halfgeleiders

This part of IEC 60204 applies to electrical and electronic equipment associated with semiconductor fabrication equipment for the manufacture, measurement, assembly, and test of semiconductors. The electrical equipment covered by this standard commences at the point of connection of the supply to the electrical equipment (see 5.1), and includes proper instruction for its safe installation. Included are requirements for protective measures against electrical safety hazards as well as electrical interlock circuits that protect against non-electrical hazards. However, it does not cover all the requirements that are needed or required by other standards or regulations in order to safeguard persons from hazards other than electrical hazards (e.g. chemical hazards, mechanical hazards, radiation hazards). Each type of machine has unique requirements to be accommodated to provide adequate safety. Additional and special requirements can apply to the electrical equipment of fabrication equipment that: - use, process, or produce potentially explosive material; - are used in potentially explosive and/or flammable atmospheres; - have special risks when producing or using certain materials; - are hoisting machines (which are covered by IEC 60204-32). This standard does not include specifications for performance or functional characteristics of the fabrication equipment. This standard does not deal with the possible effects on human health that can result from emissions (for example EMFs, noise) from the fabrication equipment. This standard does not specify requirements for electromagnetic compatibility (EMC).

Type B 2006/42/EG Geharmoniseerd	€ 298.88
NEN-EN-IEC 60204-33:2011 en	

NEN-EN-IEC 61310-1:2008

Veiligheid van machines - Signaleren, markeren en bediening - Deel 1: Eisen aan zichtbare, hoorbare en voelbare signalen

This part of IEC 61310 specifies requirements for visual, acoustic and tactile methods of indicating safety-related information, at the human-machine interface and to exposed persons. It specifies a system of colours, safety signs, markings and other warnings, intended for use in the indication of hazardous situations and health hazards and for meeting certain emergencies. It also specifies ways of coding visual, acoustic and tactile signals for indicators and actuators to facilitate the safe use and monitoring of the machinery. This standard is based on IEC 60073 with regard to coding by colour and alternative means, but is not limited to electro technical aspects.

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 61310-1:2008 en;fr

€ 126.80

NEN-EN-IEC 61310-2:2008

Veiligheid van machines - Signaleren, markeren en bediening - Deel 2: Eisen aan markeren

This part of IEC 61310 specifies requirements for the marking of machinery. It gives general rules on marking for identification of machinery, for safe use related to mechanical and electrical hazards, and for the avoidance of hazards arising from incorrect connections.

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 61310-2:2008 en;fr

€ 63.40

NEN-EN-IEC 61310-3:2008

Veiligheid van machines - Signaleren, markeren en bediening - Deel 3: Eisen aan de positie en de bediening van bedieningselementen

This part of IEC 61310 specifies safety-related requirements for actuators, operated by the hand or by other parts of the human body, at the human-machine interface. It gives general requirements for - the standard direction of movement for actuators; - the arrangement of an actuator in relation to other actuators; - the correlation between an action and its final effects. It is based on IEC 60447 but is also applicable to non-electro technical technologies such as mechanical and fluid-powered systems. It covers single actuators as well as groups of actuators forming part of an assembly. This standard does not specify any requirements for "touch screens" (such information is given in IEC 60073).

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 61310-3:2008 en;fr

€ 63.40

NEN-EN-IEC 62061:2005

Veiligheid van machines - Functionele veiligheid van elektrische, elektronische en programmeerbare systemen met een veiligheidsfunctie

NEN-EN-IEC 62061 geeft eisen en aanbevelingen voor ontwerp, samenbouw en validatie van veiligheidsgerelateerde elektrische, elektronische en programmeerbare elektronische besturingssystemen (SRECS's) voor machines (zie opmerkingen 1 en 2). Zij is van toepassing op besturingssystemen die, of afzonderlijk of in combinatie, worden gebruikt om veiligheidsgerelateerde besturingsfuncties ten behoeve van machines te vervullen.

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 62061:2005 en;fr

€ 265.89

NEN-EN-IEC 62061:2005/A1:2013

Veiligheid van machines - Functionele veiligheid van elektrische, elektronische en programmeerbare systemen met een veiligheidsfunctie

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 62061:2005/A1:2013 en

€ 36.23

NEN-EN-IEC 62061:2005/A2:2015

Veiligheid van machines - Functionele veiligheid van veiligheidsgerelateerde elektrische, elektronische en programmeerbare elektronische besturingssystemen

NEN-EN-IEC 62061:2005/A2:2015 (nl) is gebaseerd op en een gedeeltelijke vertaling van NEN-EN-IEC 62061/A2:2016 (en) en bevat wijzigingen op NEN-EN-IEC 62061:2015 (nl).

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 62061:2005/A2:2015 nl

€ 33.96

NEN-EN-IEC 62061:2005/A2:2015 en

€ 18.11

NEN-EN-IEC 62061:2005/C11:2010

Veiligheid van machines - Functionele veiligheid van elektrische, elektronische en programmeerbare systemen met een veiligheidsfunctie

Type B 2006/42/EG Geverifieerd

NEN-EN-IEC 62061:2005/C11:2010 en

€ 0.00

Ergonomie

NEN-EN 547-1:1997+A1:2008

Veiligheid van machines - Menselijke lichaamsafmetingen - Deel 1: Principes voor de bepaling van de vereiste afmetingen van toegangsopeningen in machines voor het gehele lichaam

This European Standard specifies the dimensions of openings for whole body access as applied to machinery as defined in EN 292-1. It provides the dimensions to which the values given in EN 547-3 are applicable. Values for additional space requirements are given in annex A. This European Standard has been prepared primarily for non-mobile machinery, there may be additional specific requirements for mobile machinery. Dimensions for passages are based on the values for either the 95th or the 99th percentile of the expected user population. Values for the 99th percentile apply to emergency egress routes. The anthropometric data given in EN 547-3 originate from static measurements of nude persons and do not take into account body movements, clothing, equipment, machinery operating conditions or environmental conditions. This European Standard shows how to combine the anthropometric data with suitable allowances to take these factors into account. Situations where people are to be prevented from reaching a hazard are dealt with in EN 294.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 547-1:1997+A1:2008 en

€ 49.30

NEN-EN 547-2:1997+A1:2008

Veiligheid van machines - Menselijke lichaamsafmetingen - Deel 2: Principes voor de bepaling van de vereiste afmetingen van toegangsopeningen

This European Standard specifies the dimensions of openings for access as applied to machinery as defined in EN 292-1. It provides the dimensions to which the values given in EN 547-3 are applicable. Values for additional space requirements are given in annex A. This European Standard has been prepared primarily for non-mobile machinery, there may be additional specific requirements for mobile machinery. Dimensions for access openings are based on the values for the 95th percentile, whereas reach distances are based on the values for the 5th percentile, in each case the least favourable body dimension of the expected user population being used as a basis. The same considerations apply to the location of access openings. The anthropometric data given in EN 547-3 originate from static measurements of nude persons and do not take into account body movements, clothing, equipment, machinery operating conditions or environmental conditions. This European Standard shows how to combine the anthropometric data with suitable allowances to take these factors into account. Situations where people are to be prevented from reaching a hazard are dealt with in EN 294.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 547-2:1997+A1:2008 en

€ 61.30

NEN-EN 547-3:1997+A1:2008

Veiligheid van machines - Menselijke lichaamsafmetingen - Deel 3: Antropometrische gegevens

This European Standard specifies current requirements for human body measurements (anthropometric data) that are required by EN 547-1 and EN 547-2 for the calculation of access opening dimensions as applied to machinery. The anthropometric data originate from static measurements of nude persons and do not take into account body movements, clothing, equipment, machinery operating conditions or environmental conditions. The data are based on information from anthropometric surveys representative of population groups within Europe comprising at least three million people. Both men and women are taken into account. Measurements are given, as required by EN 547-1 and EN 547-2, for the 5th, 95th and 99th percentiles of the relevant population group within Europe.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 547-3:1997+A1:2008 en

€ 61.30

NEN-EN 614-1:2006+A1:2009

Veiligheid van machines - Ergonomische ontwerpprincipes - Deel 1: Terminologie en algemene principes

This European Standard establishes the ergonomic principles to be followed during the process of design of machinery. This European Standard applies to the interactions between operators and machinery when installing, operating, adjusting, maintaining, cleaning, dismantling, repairing or transporting equipment, and outlines the principles to be followed in taking the health, safety and well-being of the operator into account. This European Standard provides a framework within which the range of more specific ergonomics standards and other related standards relevant to machinery design should be applied. The ergonomic principles given in this European Standard apply to all ranges of human abilities and characteristics to ensure safety, health and well-being and overall system performance. Information will need to be interpreted to suit the intended use.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 614-1:2006+A1:2009 en

€ 61.30

NEN-EN 614-2:2000+A1:2008

Veiligheid van machines - Ergonomische ontwerpprincipes - Deel 2: Interactie tussen het ontwerp van machines en werktaken

This European Standard establishes the ergonomics principles and procedures to be followed during the design process of machinery and operator work tasks. This European Standard deals specifically with task design in the context of machinery design, but the principles and methods may also be applied to job design. This European Standard is directed to designers and manufacturers of machinery and other work equipment. It will also be helpful to those who are concerned with the use of machinery and work equipment, e.g. to managers, organizers, operators and supervisors. In this European Standard the designer refers to the person or group of persons responsible for the design.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 614-2:2000+A1:2008 en

€ 61.30

NEN-EN 842:1997+A1:2008

Veiligheid van machines - Visuele gevraarsignalen - Algemene eisen, ontwerprincipes en beproefingsmethoden

This European Standard describes criteria for the perception of visual danger signals in the area that people are intended to perceive and to react to such a signal. It specifies the safety and ergonomic requirements and the corresponding physical measurements and subjective visual check. It also provides guidance for the design of the signals to be clearly perceived and differentiated as described in 5.3 of EN 292-2:1991. This European Standard does not apply to danger indicators: Presented in either written or pictorial form; Transmitted by data display units. This European Standard does not apply to special regulations such as those for public disaster and public transport.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 842:1997+A1:2008 en

€ 49.30

NEN-EN 894-1:1997+A1:2008

Veiligheid van machines - Ergonomische eisen voor het ontwerpen van informatie- en bedieningsmiddelen - Deel 1: Algemene beginselen voor de interactie tussen de mens en informatie- en bedieningsmiddelen

This European Standard applies to the design of displays and control actuators on machinery. It specifies general principles for human interaction with displays and control actuators, to minimise operator errors and to ensure an efficient interaction between the operator and the equipment. It is particularly important to observe these principles when an operator error may lead to injury or damage to health.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 894-1:1997+A1:2008 en

€ 49.30

NEN-EN 894-2:1997+A1:2008

Veiligheid van machines - Ergonomische eisen voor het ontwerpen van informatie- en bedieningsmiddelen - Deel 2: Informatiemiddelen

This European Standard gives guidance on the selection, design and location of displays to avoid potential ergonomic hazards associated with their use. It specifies ergonomics requirements and covers visual, audible and tactile displays. It applies to displays used in machinery (e.g. devices and installations, control panels, operating and monitoring consoles) for occupational and private use. Specific ergonomics requirements for visual display terminals (VDTs) used for office tasks are given in the standard EN ISO 9241.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 894-2:1997+A1:2008 en

€ 49.30

NEN-EN 894-3:2000+A1:2008

Veiligheid van machines - Ergonomische eisen voor het ontwerpen van informatie- en bedieningsmiddelen - Deel 3: Bedieningsmiddelen

This European Standard gives guidance on the selection, design and location of control actuators so that they are adapted to the requirements of the operators, are suitable for the control task in question and take account of the circumstances of their use. It applies to manual control actuators used in equipment for occupational and private use. It is particularly important to observe the recommendations in this European Standard where operating a control actuator may lead to injury or damage to health, either directly or as a result of a human error.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 894-3:2000+A1:2008 en

€ 74.30

NEN-EN 894-4:2010

Veiligheid van machines - Ergonomische eisen voor het ontwerpen van informatie- en bedieningsmiddelen - Deel 4: Locatie en indeling van informatie- en bedieningsmiddelen

This European Standard contains ergonomic requirements for the location and arrangement of displays and control actuators in order to avoid hazards associated with their use. This European Standard applies to displays and control actuators for machinery and other interactive equipment (e.g. devices and installations, instrument panels, control and monitoring consoles). This European Standard is not applicable to the location and arrangement of displays and control actuators which are manufactured before the date of its publication as EN.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 894-4:2010 en

€ 74.30

NEN-EN 981:1997+A1:2008

Veiligheid van machines - Systeem van akoestische en optische gevraarsignalen en informatieve signalen

To reduce risks associated with misinterpretation of visual and auditory danger signals, a system of danger and information signals is specified taking into account the different degrees of urgency. This European Standard is applicable to all danger and information signals which have to be clearly perceived and differentiated as specified in 5.3 of EN 292-2:1991, by other requirements or by the work situation, and to all degrees of urgency - from extreme urgency to an ALL CLEAR situation. Where visual signals are to be complementary to sound signals, the signal character is specified for both.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 981:1997+A1:2008 en

€ 49.30

NEN-EN 1005-1:2001+A1:2008

Veiligheid van machines - Menselijke fysieke belasting - Deel 1: Termen en definities

This European Standard provides terms and definitions on concepts and parameters used for EN 1005-2, prEN 1005-3, EN 1005-4 and EN 1005-5. Basic concepts and general ergonomic principles for the design of machinery are dealt with in EN 292-1, EN 292-2 and EN 614-1. This document is not applicable to specify the machinery which is manufactured before the date of publication of this document by CEN.

Type B 2006/42/EG Geverifieerd

NEN-EN 1005-1:2001+A1:2008 en

€ 49.30

NEN-EN 1005-2:2003+A1:2008

Veiligheid van machines - Menselijke fysieke belasting - Deel 2: Handmatig hanteren van machines en machineonderdelen

This European Standard specifies ergonomic recommendations for the design of machinery involving manual handling of machinery and component parts of machinery, including tools linked to the machine, in professional and domestic applications. This European Standard applies to the manual handling of machinery, component parts of machinery and objects processed by the machine (input/output) of 3 kg or more, for carrying less than 2 m. Objects of less than 3 kg are dealt with in prEN 1005-51). The standard provides data for ergonomic design and risk assessment concerning lifting, lowering and carrying in relation to the assembly/erection, transport and commissioning (assembly, installation, adjustment), operation, fault finding, maintenance, setting, teaching or process changeover and decommissioning, disposal and dismantling of machinery. This standard provides current data on the general population and certain sub-populations (clarified in annex A). This part of the standard does not cover the holding of objects (without walking), pushing or pulling of objects, hand-held machines, or handling while seated. This document is not applicable to specify the machinery which are manufactured before the date of publication of this document by CEN.

Type B 2006/42/EG Geverifieerd

NEN-EN 1005-2:2003+A1:2008 en

€ 61.30

NEN-EN 1005-3:2002+A1:2008

Veiligheid van machines - Menselijke fysieke belasting - Deel 3: Aanbevolen maximale krachten bij machinewerkzaamheden

This European Standard presents guidance to the manufacturer of machinery or its component parts and the writer of C-standards in controlling health risks due to machine-related muscular force exertion. This standard specifies recommended force limits for actions during machinery operation including construction, transport and commissioning (assembly, installation, adjustment), use (operation, cleaning, fault finding, maintenance, setting, teaching or process changeover) decommissioning, disposal and dismantling. The standard applies primarily to machines which are manufactured after the date of issue of the standard. This standard applies on one hand to machinery for professional use operated by the adult working population, who are healthy workers with ordinary physical capacity, and on the other hand to machinery for domestic use operated by the whole population including youth and old people. The recommendations are derived from research on European population. This document is not applicable to specify the machinery which are manufactured before the date of publication of this document by CEN.

Type B 2006/42/EG Geverifieerd

NEN-EN 1005-3:2002+A1:2008 en

€ 61.30

NEN-EN 1005-4:2005+A1:2008

Veiligheid van machines - Menselijke fysieke belasting - Deel 4: Evaluatie van werkhoudingen en bewegingen bij machinewerkzaamheden

This European Standard presents guidance when designing machinery or its component parts in assessing and affecting health risks due only to machine-related postures and movements, i.e. during assembly, installation, operation, adjustment, maintenance, cleaning, repair, transport, and dismantlement. This European Standard specifies requirements for postures and movements without any or with only minimal external force exertion. The requirements are intended to reduce the health risks for nearly all healthy adults. This European Standard is not applicable to the machinery, which is manufactured before the date of publication of this European Standard by CEN.

Type B 2006/42/EG Geverifieerd

NEN-EN 1005-4:2005+A1:2008 en

€ 49.30

NEN-EN-ISO 7731:2008

Ergonomie - Gevaarsignalen voor openbare- en werkruimten - Akoestische gevaarsignalen

This International Standard specifies the physical principles of design, ergonomic requirements and the corresponding test methods for danger signals for public and work areas in the signal reception area and gives guidelines for the design of the signals. It may also be applied to other appropriate situations. The relevance given in the definitions as to the difference between an auditory emergency signal, auditory emergency evacuation signal and an auditory warning signal should be noted. The emergency evacuation signal is covered in ISO 8201. This International Standard does not apply to verbal danger warnings (e.g. shouts, loudspeaker announcements). ISO 9921 covers verbal danger signals. Special regulations such as those for a public disaster and public transport are not affected by this International Standard.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 7731:2008 en

€ 79.70

NEN-EN-ISO 13732-1:2008

Klimaatomstandigheden - Methoden voor het bepalen van menselijke reacties bij het aanraken van oppervlakken - Deel 1: Warme oppervlakken

This part of ISO 13732 provides temperature threshold values for burns that occur when human skin is in contact with a hot solid surface. It also describes methods for the assessment of the risks of burning, when humans could or might touch hot surfaces with their unprotected skin. This part of ISO 13732 also gives guidance for cases where it is necessary to specify temperature limit values for hot surfaces; it does not set surface temperature limit values. This part of ISO 13732 deals with contact periods of 0,5 s and longer. It is applicable to contact when the surface temperature is essentially maintained during the contact (see 4.1). This part of ISO 13732 is applicable to the hot surfaces of all kind of objects: equipment, products, buildings, natural objects, etc. For the purposes of simplification, it mentions only products; nevertheless, it applies to all other objects as well. It is applicable to products used in any environment, e.g. in the workplace, in the home. It is applicable to hot surfaces of products that may be touched by healthy adults, children, elderly people and also by people with physical disabilities.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 13732-1:2008 en

€ 143.10

NEN-EN-ISO 13732-3:2008

Klimaatomstandigheden - Methoden voor het bepalen van menselijke reacties bij het aanraken van oppervlakken - Deel 3: Koude oppervlakken

This European Standard describes methods for the assessment of the risk of cold injury and other adverse effects when a cold surface is touched by bare hand/finger skin. This standard provides ergonomics data to establish temperature limit values for cold solid surfaces. The values established can be used in the development of special standards, where surface temperature limit values are required. The data of this standard will be applicable to all fields where cold solid surfaces cause a risk of acute effects: pain, numbness and frostbite. The data are not limited to the hands but apply to human skin in general. The standard is applicable to the healthy skin of adults (females and males). Considerations on the extension of applications are given in Annex B.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 13732-3:2008 en

€ 106.87

NEN-EN-ISO 14738:2008

Veiligheid van machines - Antropometrische eisen voor het ontwerp van werkplekken bij machines

Establishes principles for deriving dimensions from anthropometric measurements and applying them to the design of workstations at non-mobile machinery. It is based on current ergonomic knowledge and anthropometric measurements. This International Standard specifies the body's space requirements for equipment during normal operation in sitting and standing positions.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 14738:2008 en

€ 106.87

NEN-EN-ISO 15536-1:2008

Ergonomie - Computer-mensfiguren en lichaamssjablonen - Deel 1: Algemene eisen

This part of ISO 15536 establishes the general requirements for the design and development of computer manikins, body templates and manikin systems. It addresses their anthropometric and biomechanical properties, taking into account their usability and restrictions for structural complexity and functional versatility, and is also intended as a guide for the selection of manikins and manikin systems and for the evaluation of their accuracy and usability for the specified use. It specifies the documentation of the characteristics of manikins and manikin systems and their intended use, for the guidance of their users. It provides means for ensuring that computer manikins and body templates for the design of work space are appropriately accurate and reliable in their anthropometric and biomechanical aspects. It aims to ensure that users of manikins are able to choose an appropriate manikin system for particular design tasks and use it in an appropriate way. It sets requirements only on the static accuracy of the manikin, but provides recommendations on the other factors that can influence the accuracy of the analyses and determinations performed using them.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 15536-1:2008 en

€ 52.53

Ontploffingsgevaar

NEN-EN 1127-1 Ontw.

Plaatsen waar explosiegevaar kan heersen - Explosiepreventie en -bescherming - Deel 1: Grondbeginselen en methodologie

This European Standard specifies methods for the identification and assessment of hazardous situations leading to explosion and the design and construction measures appropriate for the required safety. This is achieved by: - risk assessment; - risk reduction. The safety of equipment, protective systems and components can be achieved by eliminating hazards and/or limiting the risk, i.e. by: a) appropriate design (without using safeguarding); b) safeguarding; c) information for use; d) any other preventive measures. Measures in accordance with a) (prevention) and b) (protection) against explosions are dealt with in Clause 6, measures according to c) against explosions are dealt with in Clause 7. Measures in accordance with d) are not specified in this European Standard. They are dealt with in EN ISO 12100:2010, Clause 6. The preventive and protective measures described in this European Standard will not provide the required level of safety unless the equipment, protective systems and components are operated within their intended use and are installed and maintained according to the relevant codes of practice or requirements. This standard specifies general design and construction methods to help designers and manufacturers in achieving explosion safety in the design of equipment, protective systems and components. This European Standard is applicable to any equipment, protective systems and components intended to be used in potentially explosive atmospheres, under atmospheric conditions. These atmospheres can arise from flammable materials processed, used or released by the equipment, protective systems and components or from materials in the vicinity of the equipment, protective systems and components and/or from the materials of construction of the equipment, protective systems and components. This European Standard is applicable to equipment, protective systems and components at all stages of its use. This European Standard is only applicable to equipment group II which is intended for use in other places than underground parts of mines and those parts of surface installations of such mines endangered by firedamp and/or flammable dust. This European Standard is not applicable to: 1) medical devices intended for use in a medical environment; 2) equipment, protective systems and components where the explosion hazard results exclusively from the presence of explosive substances or unstable chemical substances; 3) equipment, protective systems and components where the explosion can occur by reaction of substances with other oxidizers than atmospheric oxygen or by other hazardous reactions or by other than atmospheric conditions; 4) equipment intended for use in domestic and non-commercial environments where potentially explosive atmospheres may only rarely be created, solely as a result of the accidental leakage of fuel gas; 5) personal protective equipment covered by Directive 89/686/EEC; 6) seagoing vessels and mobile offshore units together with equipment on board such vessels or units; 7) means of transport, i.e. vehicles and their trailers intended solely for transporting passengers by air or by road, rail or water networks, as well as means of transport insofar as such means are designed for transporting goods by air, by public road or rail networks or by water; vehicles intended for use in a potentially explosive atmosphere shall not be excluded; 8) the design and construction of systems containing desired, controlled combustion processes, unless they can act as ignition sources in potentially explosive atmospheres.

Type B

NEN-EN 1127-1:2017 Ontw. en

€ 35.70

NEN-EN 1127-1:2011

Plaatsen waar explosiegevaar kan heersen - Explosiepreventie en -bescherming - Deel 1: Grondbeginselen en methodologie

This European Standard specifies methods for the identification and assessment of hazardous situations leading to explosion and the design and construction measures appropriate for the required safety. This is achieved by: risk assessment; risk reduction. The safety of equipment, protective systems and components can be achieved by eliminating hazards and/or limiting the risk, i.e. by: a) appropriate design (without using safeguarding); b) safeguarding; c) information for use; d) any other preventive measures. Measures in accordance with a) (prevention) and b) (protection) against explosions are dealt with in Clause 6, measures according to c) against explosions are dealt with in Clause 7. Measures in accordance with d) are not specified in this European Standard. They are dealt with in EN ISO 12100:2010, Clause 6. The preventive and protective measures described in this European Standard will not provide the required level of safety unless the equipment, protective systems and components are operated within their intended use and are installed and maintained according to the relevant codes of practice or requirements. This standard specifies general design and construction methods to help designers and manufacturers in achieving explosion safety in the design of equipment, protective systems and components. This European Standard is applicable to any equipment, protective systems and components intended to be used in potentially explosive atmospheres, under atmospheric conditions. These atmospheres can arise from flammable materials processed, used or released by the equipment, protective systems and components or from materials in the vicinity of the equipment, protective systems and components and/or from the materials of construction of the equipment, protective systems and components.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1127-1:2011 en

€ 74.30

NEN-EN 1127-2:2014

Ontploffingsgevaarlijke atmosferen - Voorkoming van en bescherming tegen explosies - Deel 2: Grondbeginselen en methodologie voor mijnbouw

NEN-EN 1127-2 specifies methods for explosion prevention and protection in mining by outlining the basic concepts and methodology for the design and construction of equipment, protective systems and components. This European Standard applies to Group I equipment, protective systems and components intended for use in underground parts of mines and those parts of their surface installations at risk from firedamp and/or combustible dust. This European Standard specifies methods for the identification and assessment of hazardous situations that may lead to explosions and describes the design and construction measures appropriate for the required safety. This is achieved by - risk assessment; - risk reduction. The safety of equipment, protective systems, and components can be achieved by eliminating hazards and/or limiting the risk, i.e. a) by appropriate design (without using safeguarding); b) by safeguarding; c) by information for use; d) by any other preventive measures. Measures in accordance with a) (prevention) and b) (protection) against explosions are dealt with in Clause 6 of this standard; measures according to c) against explosions are dealt with in Clause 7 of this standard. Measures in accordance with d) are not described in this European Standard. They are dealt with in EN ISO 12100:2010, Clause 6. The preventive and protective measures described in this European Standard will not provide the required level of protection unless the equipment, protective systems and components are operated in line with their intended use and are installed and maintained according to the relevant codes of practice or requirements. This standard is applicable to any equipment, protective systems and components intended to be used in potentially explosive atmospheres. These atmospheres can arise from flammable materials processed, used or released by the equipment, protective systems and components or from materials in the vicinity of the equipment, protective systems and components and/or from the materials of construction of the equipment, protective systems and components. As shot firing can release potentially explosive atmospheres, this standard is also applicable to the equipment used for shot firing, apart from the explosives and detonators. This standard is applicable to equipment, protective systems and components at all stages of use. This standard is not applicable to: - medical devices intended for use in a medical environment; - equipment, protective systems and components where the explosion hazard results exclusively from the presence of explosives or unstable chemical substances; - equipment, protective systems and components where the explosion can result from reaction of substances with oxidising agents other than atmospheric oxygen or by other hazardous reactions or conditions other than atmospheric conditions; - equipment intended for use in domestic and non-commercial environments where explosive atmospheres may only rarely be created and solely as a result of the accidental leakage of fuel gas; - personal protective equipment covered by Directive 89/686/EEC; the design and construction of systems containing desired, controlled combustion processes, unless they can act as ignition sources in potentially explosive atmospheres; - mines where firedamp and/or combustible dust are not naturally present and surface installations such as coal preparation plants, power plants, coke oven plants etc. in which an explosive atmosphere can be present, but which are not part of a coal mine. These are covered by EN 1127-1:2011.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1127-2:2014 en

€ 61.30

NEN-EN 15967:2011

Bepaling van de maximale explosiedruk en de maximale druktoename van gassen en dampen

This European Standard specifies a test method that is designed to produce measurements of explosion pressure and the maximum explosion pressure, the rate of explosion pressure rise and the maximum rate of explosion pressure rise of a quiescent flammable gas/air/inert mixture in closed volume at ambient temperature and pressure. In this European Standard, the term "gas" includes vapours but not mists. Detonation and decomposition phenomena are not considered in this European Standard. The pressures and rates of pressure rise measured by the procedures specified in this European Standard are not applicable to flameproof enclosures, that is enclosures intended to withstand an internal explosion and not to transmit it to an external explosive atmosphere, or any other closed volume where the internal geometry can result in pressure piling. Even in an enclosure of relatively simple geometry the disposition of the internal components can lead to rates of pressure rise significantly higher than those measured using this European Standard. This European Standard does not apply to the design and testing of flameproof enclosures in conformity with EN 13463-6 (for non-electrical equipment) and EN 60079-1 (for electrical equipment).

Type B 2006/42/EG Geharmoniseerd

NEN-EN 15967:2011 en

€ 61.30

NEN-EN-ISO/IEC 80079-38:2016

Explosieve atmosferen - Deel 38: Materieel en componenten in explosieve atmosferen in ondergrondse mijnen

NEN-EN-ISO/IEC 80079-38 specifies the explosion protection requirements for the design, construction, assessment and information for use (maintenance, repair, marking) of equipment that may be an individual item or form an assembly. This includes machinery and components for use in mines susceptible to explosive atmospheres of firedamp and/or combustible dust. The standard atmospheric conditions (relating to the explosion characteristics of the atmosphere) under which it may be assumed that equipment can be operated are: - temperature -20 °C to +60 °C; - pressure 80 kPa (0,8 bar) to 110 kPa (1,1 bar); and - air with normal oxygen content, typically 21 % v/v. This part of ISO/IEC 80079 applies for equipment and components according to EPL Mb to be used in explosive atmospheres containing firedamp and/or combustible dust. For equipment and components according to EPL Ma, the requirements of this standard and of ISO 80079-36 and IEC 60079-0 apply. It is necessary to take account of external conditions to the equipment which may affect the hazard and the resultant protection measures. These measures may include ventilation, gas detection or gas drainage. This part of ISO/IEC 80079 also deals with the prevention of ignitions of explosive atmospheres caused by burning (or smouldering) of combustible material such as fabric fibres, plastic "O"-rings, rubber seals, lubricating oils or greases used in the construction of the equipment if such items could be an ignition source. For example, the mechanical failure of rotating shaft bearings can result in frictional heating that ignites its plastic cage, plastic seal or lubricating grease. Detailed requirements and test procedures for the fire protection of conveyer belts are not part of this part of ISO/IEC 80079.

Type B

NEN-EN-ISO/IEC 80079-38:2016 en

€ 179.33

Mechanische trillingen

NEN-EN 1032:2003+A1:2009

Mechanische trillingen - Beproeving van mobiele machines om de trillingsemmissiewaarde te bepalen

This European Standard specifies the determination of whole-body and hand-arm vibration emissions at operator position(s) during testing of mobile machinery. The purpose of this European Standard is to assist technical standardization committees responsible for specific types of machinery in preparing vibration test codes to ensure that such vibration test codes - are as homogeneous as possible with each individual test code having the same basic structure; - are in full accordance with basic standards on measurement of vibration emission; - reflect the latest technical knowledge of methods of determining the vibration emission from the specific family of machinery under consideration; - provide manufacturers with a standardized method for the determination and declaration of the vibration emission value(s) of their machinery; - enable the user of the machinery or the member of an inspection body to compare the vibration emission values of different machinery and to verify the vibration emission values provided by the manufacturer. This European Standard provides requirements for the preparation of vibration test codes, including guidelines for the conditions under which the measurements shall be made (e.g. operating conditions). Information to be included in a typical vibration test code is summarized in Annex A. Vibration test codes based on this European Standard should define measuring procedures which provide accurate and reproducible results which are as far as possible in agreement with values measured under real working conditions. For determination of the magnitude of the vibration to be noted in the instruction handbook, this European Standard requires operating conditions enabling the determination of the 75-percentile of the vibration experienced at the operator's position during the mode of operation causing the highest vibration. This European Standard applies to sitting and standing positions. It is applicable to all mobile machinery producing periodic or random vibration with or without transients. Rotational vibration is not dealt with in this European Standard. This European Standard contains sufficient guidance for designing an appropriate test for machinery for which no vibration test codes exist. It can also be used for the determination of vibration emission values of individual machines. This European Standard does not present limits or recommended vibration values. In general, the emission values should not be used for assessment of the health risk. This European Standard does not give any guidance or recommendations for determination of human exposure to vibration and shock.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1032:2003+A1:2009 en

€ 61.30

NEN-EN 1299:1997+A1:2009

Mechanische trillingen en schok - Trillingsisolatie van machines - Gegevens voor de toepassing van bronisolatie

This European Standard gives guidelines to ensure that manufacturers of machines provide adequate information on application of vibration isolation to reduce the risks arising from vibration generated by their machines. Guidelines are also provided to ensure that users furnish sufficient information regarding their applications to suppliers of machines or, where applicable, to the supplier of the isolation system, to enable the optimum selection and design of vibration isolation. This European Standard is restricted to source isolation. Although this standard is primarily intended for the use of new machines, it may be applied to the installation of used machines, too. This European Standard is addressed to manufacturers and installers of a machine, as a guide to define relevant parameters for the choice and installation of a vibration isolation system to be used with the machine.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 1299:1997+A1:2009 en

€ 49.30

NEN-EN-ISO 5349-2:2001/A1:2015

Mechanische trillingen - Meting en beoordeling van blootstelling van het menselijk lichaam aan hand-armtrillingen
- Deel 2: Praktische leidraad voor meting op de werkplek

Type B

NEN-EN-ISO 5349-2:2001/A1:2015 en

€ 79.70

NEN-EN-ISO 10326-1:2016(Cor.2017-03)

Mechanische trillingen - Laboratoriummethode voor de beoordelingen van de trillingen van de voertuigstoel - Deel 1: Basiseisen

NEN-EN-ISO 10326-1 specifies basic requirements for the laboratory testing of vibration transmission through a vehicle seat to the occupant. These methods for measurement and analysis make it possible to compare test results from different laboratories for equivalent seats. It specifies the test method, the instrumentation requirements, the measuring assessment method and the way to report the test result. This document applies to specific laboratory seat tests which evaluate vibration transmission to the occupants of any type of seat used in vehicles and mobile off-road machinery. Application standards for specific vehicles refer to this document when defining the test input vibration that is typical for the vibration characteristics of the type or class of vehicle or machinery in which the seat is to be fitted.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 10326-1:2016(Cor.2017-03) en

€ 106.87

NEN-EN 12786:2013

Veiligheid van machines - Regels voor het opstellen van hoofdstukken over trillingen in veiligheidsnormen

This European Standard gives guidance for the writers of harmonized type-C machinery safety standards on how to deal with vibration where hand-transmitted vibration and/or whole-body vibration is identified as a significant hazard. This European Standard also gives guidance on how to deal with the requirement for declaration of the vibration emission of portable hand-held and/or hand-guided machinery and for mobile machinery. This European Standard supplements EN ISO 12100.

Type B 2006/42/EG Geharmoniseerd

NEN-EN 12786:2013 en

€ 49.30

NEN-EN 13490:2001+A1:2009

Mechanische trillingen - Gemotoriseerde transportwerk具gen - Laboratoriumonderzoek van de trillingen van de bestuurdersstoel

This European Standard is applicable to operator seats used on industrial trucks as defined in ISO 5053:1987 irrespective of power supply, type of equipment, lifting mechanism and tyres. It also applies to seats for other trucks not covered by ISO 5053:1987, e.g. variable-reach trucks and low lift order picking trucks. This European Standard specifies, in accordance with EN 30326-1, a laboratory method for measuring and evaluating the effectiveness of the seat suspension in reducing the vertical whole body vibration transmitted to the operator of industrial trucks at frequencies between 1 Hz and 20 Hz. This European Standard defines the input spectral classes required for the following industrial trucks. Each class defines a group of machines having similar vibration characteristics: - Platform trucks, trucks rider-controlled, etc. with wheel mean diameter below 200 mm and high load nonrubber solid tyres (category 1) - Reach trucks, articulated trucks, etc. with wheel mean diameter below 450 mm and high-load non-rubber solid tyres or cylindrical/conical base rubber solid tyres (category 2) - Straddle trucks, trucks with wheel mean diameter below 645 mm and rubber solid or pneumatic tyres (category 3) - Straddle trucks, trucks with wheel mean diameter between 645 mm and 900 mm and rubber solid or pneumatic tyres (category 4a) - Straddle trucks, trucks with wheel mean diameter between 900 mm and 1200 mm and rubber solid or pneumatic tyres (category 4b) - Trucks with wheel mean diameter between 1200 mm and 2000 mm and rubber solid or pneumatic tyres (category 5) - All-terrain trucks (category 6) This European Standard specifies performance criteria to be achieved by seats intended for each of the above-mentioned groups of machines. The tests and criteria defined in this European Standard are intended for operator seats used in industrial trucks of conventional design. This European Standard is only concerned with the vertical component of whole-body vibration. Vibration which reaches the operator other than through his seat, for example that sensed by his feet on the platform or control pedals or by his hands on the steering-wheel, is not covered.

Type B 2006/42/EG Geverifieerd

NEN-EN 13490:2001+A1:2009 en

€ 49.30

NEN-EN-ISO 13753:2008

Mechanische trillingen en schok - Hand- en armtrillingen - Methode voor het meten van de overdraagbaarheid van trillingen door veerkrachtige materialen onder belasting door het arm-handsysteem

This International Standard specifies a procedure to determine the vibration transmissibility of a resilient material when loaded by the hand-arm system. The method is applicable to all materials which behave in a linear way. It is expected that this is realized in most elastic foam and rubber materials and, provisionally, in woven cloths. The method can be applied to mixed systems, e.g. a cloth material attached to a foam or rubber base. It is expected that the results of this laboratory test will be used in screening materials used for vibration attenuation on the handles of tools and for gloves. This will enable rank ordering of materials for gloves, but will not necessarily predict the transmissibility of the gloves fabricated from these materials (for this purpose, see ISO 10819).

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 13753:2008 en

€ 52.53

NPR-CEN/TR 15350:2013

Mechanische trillingen - Richtlijn voor de bepaling van blootstelling aan op de hand overgebrachte trillingen gebruikmakend van beschikbare informatie inclusief door de fabrikant van de machines verstrekte informatie

This Technical Report gives guidelines for estimating, assessing and documenting the daily vibration exposure due to the use of hand-held power tools and hand-guided machines, according to the requirements of the European Physical Agents Directive (vibration) 2002/44/EC. This Technical Report is addressed to competent services for the assessment of vibration exposure at the workplace and to national authorities and industrial organisations. It helps to establish documentation for specific machinery or work situations and can also be useful for employers. It follows the method of EN ISO 5349-1 and EN ISO 5349-2 but instead of measuring the vibration magnitudes at the specific workplaces, the methods in this Technical Report use existing vibration values from other sources of information including those provided by the manufacturers of the machinery according to the requirements of the Machinery Directive 2006/42/EC. It is important that the vibration values used in the exposure assessment are representative of those in the specific use of the machinery. Workplace measurements, however, are required if suitable data are not available to represent the vibration under the specific working conditions or if the calculation results do not help to decide whether or not the vibration exposure limit value or exposure action value is likely to be exceeded. This Technical Report gives guidance on how to estimate the exposure duration and the daily vibration exposure A(8) as defined in EN ISO 5349-1. It also offers a simple method for estimating the daily vibration exposure by means of a table which indicates the vibration exposure as a function of the equivalent vibration total value and the associated exposure duration. Both methods can be used even in cases of multiple exposures on the same day. Annex A gives guidance for manufacturers and suppliers of machinery concerning information that warns of risks from vibration, which should be reported to the customer.

Type B

NPR-CEN/TR 15350:2013 en

€ 74.30

NEN-EN-ISO 20643:2008

Met de hand overgebrachte trillingen van handmatige of met de hand geleide machines - Metingen van trillingen van de grijpvakken

This document provides the basis for the drafting of vibration test codes for hand-held and hand-guided power driven machinery. It specifies the determination of hand-transmitted vibration emission in terms of frequency weighted root-mean-square (r.m.s.) acceleration during type testing. For machines where vibration test codes do not exist, it may also be used for determination of emission values and contains sufficient guidance for designing an appropriate test. NOTE Vibration test codes based on this document should define measuring procedures which provide controlled, repeatable and reproducible results which are, as far as possible, in agreement with the vibration values measured at the machine-hand contact surfaces under real working conditions and for which the uncertainties of measurement are quantified. This document is applicable to hand-held power tools (e.g. chipping hammers, sanders), hand-guided powered machines (e.g. lawn mowers, single-axle tractors, vibratory rollers) and other types of powered machines fitted with handles, guiding beams or similar means of control. It is applicable to machinery of all power sources (electrical, hydraulic, pneumatic, internal combustion engine, etc.). It does not apply to fixed machinery in which the vibration is transmitted to the hands of the user through the work piece. This document is not applicable to vibration transmitted from steering wheels or control levers of mobile machinery where the operator's position is on the machine, see EN 1032. It is restricted to translational vibration measured in three orthogonal directions at the hand-machine interface. This document should be applied with caution to machines producing single and repetitive shocks with a frequency of occurrence lower than 5 Hz. For such machines, it is not known whether frequency-weighted root-mean-square acceleration values are related to the risks to health and additional measurements may be required. When developing vibration test codes for such machines the information in CEN ISO/TS 15694 should be considered. This document is not applicable to vibration test codes published before the date of publication of this document by CEN and, when used as test code, to hand-held and hand-guided machinery manufactured before that date. This document does not present limits or recommended vibration values. It does not give any guidance or recommendations for determination of human exposure to vibration at the workplace. For such information, reference is made to EN ISO 5349-1 and EN ISO 5349-2.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 20643:2008 en

€ 79.70

NEN-EN-ISO 20643:2008/A1:2012

Mechanische trillingen - Handbediende en handgeleide machines - Principes voor de beoordeling van de trillingsemisie - Amendment 1: Versnellingsmeter posities

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 20643:2008/A1:2012 en

€ 14.49

NEN-EN-ISO 28927-1:2010

Draagbare handgereedschappen - Beproevingsmethoden voor de evaluatie van de trillingsemisie - Deel 1: Hoek- en verticale slijpmachines

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held power-driven angle and vertical grinders. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine fitted with a specified test wheel and run under no-load conditions. The method has been established for surface grinding tasks only. Cutting and sanding generally create lower vibrations. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to hand-held machines (see Clause 5), driven pneumatically or by other means, intended for grinding, cutting-off and rough sanding, with bonded, coated and super-abrasive products for use on all kinds of materials. It is not applicable to grinders used with wire brushes, nor is it applicable to die or straight grinders.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-1:2010 en

€ 34.42

NEN-EN-ISO 28927-1:2010/A1:2017

Draagbare handgereedschappen - Beproevingsmethoden voor de evaluatie van de trillingsemisie - Deel 1: Hoek- en verticale slijpmachines

Type B

NEN-EN-ISO 28927-1:2010/A1:2017 en

€ 14.49

NEN-EN-ISO 28927-2:2010

Draagbare handgereedschappen - Beproevingsmethoden voor de evaluatie van de trillingsemisie - Deel 2: Schroefsluitels, moersleutels en schroevendraaiers

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held power-driven wrenches, nut runners and screwdrivers used for tightening and loosening threaded fasteners. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine when operating at a specified load. The method has been tested for fastening tasks only. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to hand-held machines (see Clause 5), driven pneumatically or by other means, with impact or impulse action, of shut-off, ratchet or stall type, and of all designs - straight, pistol-grip, angle or bow handle. It covers machines with 6,3 mm to 40 mm (1/4 in to 11/2 in) male or female drive output shafts, as well as other geometries. It is not applicable to nut runners designed to be used only in torque reaction arms.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-3:2008 Ontw. en

€ 31.83

NEN-EN-ISO 28927-2:2010 en

€ 34.42

NEN-EN-ISO 28927-2:2010/A1:2017

Draagbare handgereedschappen - Beproeingsmethode voor de evaluatie van trillingsemisie - Deel 2: Schroefslutels, moersleutels en schroevendraaiers - Amendment 1: Veranderingen in bijlage C: Rem methodiek

Type B

NEN-EN-ISO 28927-2:2010/A1:2017 en

€ 28.80

NEN-EN-ISO 28927-3:2010

Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 3: Polijst - en roterende machines, excentrische of pendelende beweging

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held, power-driven, portable polishers and rotary, orbital and random orbital sanders used for surface-finishing processes, not for material removal. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine when operating under type-test conditions. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to hand-held machines (see Clause 5), driven pneumatically or by other means. It is not applicable to straight grinders equipped with a sanding wheel or to belt sanders.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-3:2010 en

€ 106.87

NEN-EN-ISO 28927-4:2011

Draagbare handgereedschappen met motoraandrijving - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 4: Rechte slijpmachines

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of straight grinders. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine fitted with a specified test wheel and run under no-load conditions. This part of ISO 28927 is applicable to hand-held machines (see Clause 5), driven pneumatically or by other means, intended for grinding and surface finishing using straight grinding wheels type 1, tapered wheels type 4 and cylindrical plugs, e.g. of type 16 (cylindrical plug, tapered cone), 18 (cylindrical plug, flat end), 18R (cylindrical plug, rounded end) and 19 (cylindrical plug, taper-roll shaped), for use on all kinds of materials. It is not applicable to grinders used with wire brushes, nor is it applicable to die grinders where the inserted tool is mounted in a collet.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-4:2011 en

€ 106.87

NEN-EN-ISO 28927-5:2010

Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 5: Boormachines en slagboormachines

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held, power-driven drills and impact drills. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a drill fitted with a drill bit. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to straight drills, drills with a pistol-grip and angle drills intended for drilling holes with rotating or impact action in all kinds of materials (see Clause 5), driven pneumatically or by other means. It is not applicable to heavy-duty drills with a screw feed or drills driven by a combustion engine.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-5:2010 en

€ 34.42

NEN-EN-ISO 28927-5:2010/A1:2015

Draagbare handgereedschappen met motoraandrijving - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 5: Boormachines en slagboormachines - Amendment 1: Aandrukkracht

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-5:2010/A1:2015 en

€ 14.49

NEN-EN-ISO 28927-6:2010

Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 6: Stampers

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held, power-driven rammers. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine run under specified test conditions. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to rammers, back-fill rammers, paving rammers, sand rammers and stampers (see Clause 5), driven pneumatically or by other means, intended for use in foundries, on building sites, etc., and with, for example, butts or peens made of cast iron or rubber, used for ramming of casting sand or in stamping work.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-6:2010 en

€ 79.70

NEN-EN-ISO 28927-7:2010**Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 7:
Plaatscharen en knabbelzagen**

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held, power-driven nibblers and shears. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine run under specified test conditions. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to nibblers and shears (see Clause 5), driven pneumatically or by other means, intended for cutting sheet metal or composite materials.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-7:2010 en

€ 34.42

NEN-EN-ISO 28927-8:2010/A1:2016**Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 8:
Zagen, polijst- en vijlmachines met een translatieve beweging en kleine zagen met een trillende of roterende
beweging - Amendement 1: Polijstmachines, aangepaste aanzetkrachten**

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-8:2010/A1:2016 en

€ 14.49

NEN-EN-ISO 28927-9:2010**Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 9:
Beoordeling van klophamers en naaldontroesters**

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held, power-driven scaling hammers and needle scalers. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a machine run under specified test conditions. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to engraving pens, scabblers, scaling hammers and needle scalers (see Clause 5), driven pneumatically or by other means, intended for paint, rust or scale removal with reciprocating work tools or needles and for all kinds of materials.

Type B

NEN-EN-ISO 28927-9:2010 en

€ 79.70

NEN-EN-ISO 28927-10:2011**Draagbare handgereedschappen - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 10:
Slagboormachines, hamers en breakers**

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held power driven percussive machines with and without rotary action (portable rock drills, plug hole drills, rotary hammers, breakers (e.g. pavement breakers, concrete breakers or road breakers), riveting hammers, chipping hammers, pick hammers, or similar). It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of machine fitted with inserted tool bit. This part of ISO 28927 applies to rotary percussive machines intended for making holes in hard materials like rock and concrete. It also applies to breakers intended to work downwards to break hard material like concrete, rock, pavement, asphalt, etc. and for hammers intended to work in any direction to perform riveting or chiselling work. The machines covered by this part of ISO 28927 may be pneumatically driven, or driven by other means. Typical machines are illustrated in Figures 1-7. This part of ISO 28927 applies to the machines mentioned in clause 5. It does not apply to impact drills with direct mechanical impact mechanisms. Also this standard does not apply to jack leg type rock drills and push feed rock drills which are hand guided (the feed force is not applied by hand, but by an additional device). It is intended that the results can be used to compare different models of the same type of machine.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-10:2011 en

€ 124.99

NEN-EN-ISO 28927-11:2011**Draagbare handgereedschappen met motoraandrijving - Beproeingsmethoden voor het meten van mechanische
trillingen - Deel 11: Steenhamers**

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held stone hammers. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of a stone hammer when operated in laboratory conditions. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to engraving pens and stone hammers intended for use by stone masons, driven pneumatically or by other means. It is not applicable to demolition hammers or to chipping hammers primarily intended for use on metal or in construction.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-11:2011 en

€ 79.70

NEN-EN-ISO 28927-12:2012

Draagbaar handgereedschap - Beproeingsmethoden voor de evaluatie van de trillingsemisie - Deel 12:
Roterende gereedschappen

This part of ISO 28927 specifies a laboratory method for measuring hand-transmitted vibration emission at the handles of hand-held power driven portable die grinders. It is a type-test procedure for establishing the magnitude of vibration in the gripping areas of the machines where operating under type test conditions. It is intended that the results be used to compare different models of the same type of machine. This part of ISO 28927 is applicable to hand-held machines (see Clause 5), driven pneumatically or by other means, equipped with a collet and intended for deburring operations using hard metal burrs or mounted points, on different materials ranging from hard steel to plastics. It is also applicable to low-speed die grinders using flap wheels or cylindrical sleeves.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28927-12:2012 en

€ 106.87

Akoestiek**NEN-EN-ISO 3743-1:2010**

Akoestiek - Bepaling van geluidvermogenniveaus en geluidenergieniveaus van geluidbronnen met behulp van geluiddrukmetingen - Technische methoden voor kleine, verplaatsbare bronnen in galmvelden - Deel 1:
Vergelijkmethode voor testkamers met harde wanden

This part of ISO 3743 specifies methods for determining the sound power level or sound energy level of a noise source by comparing measured sound pressure levels emitted by this source (machinery or equipment) mounted in a hard-walled test room, the characteristics of which are specified, with those from a calibrated reference sound source. The sound power level (or, in the case of noise bursts or transient noise emission, the sound energy level) produced by the noise source, in frequency bands of width one octave, is calculated using those measurements. The sound power level or sound energy level with A-weighting applied is calculated using the octave-band levels.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3743-1:2010 en

€ 143.10

NEN-EN-ISO 3743-2:2009

Akoestiek - Bepaling van geluidvermogenniveaus van geluidbronnen gebaseerd op de meting van de geluiddruk - Praktijkmethoden voor kleine, verplaatsbare bronnen in galmvelden - Deel 2: Methoden voor speciale nagalmkamers

This part of ISO 3743 specifies a relatively simple engineering method for determining the sound power levels of small, movable noise sources. The measurements are carried out when the source is installed in a specially designed room having a specified reverberation time over the frequency range of interest. The A-weighted sound power level of the source under test is determined from a single Aweighted sound pressure level measurement at each microphone position, rather than from a summation of octave-band levels. This direct method eliminates the need for a reference sound source, but requires the use of a special reverberation test room. The direct method is based on the premise that the sound pressure level, averaged in space and time in the test room, can be used to determine the sound power level emitted by the source. The properties of the special reverberation test room are chosen so that the room's influence on the sound power output of the equipment under test is small. The number of microphone positions and source locations required in the test room are specified. Guidelines for the design of special reverberation rooms are given in annex B.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3743-2:2009 en

€ 106.87

NEN-EN-ISO 3744:2010

Akoestiek - Bepaling van geluidvermogenniveaus en geluidenergieniveaus van geluidbronnen met behulp van geluiddrukmetingen - Technische methoden voor vrij-veldomstandigheden boven een reflecterend oppervlak

This International Standard specifies methods for determining the sound power level or sound energy level of a noise source from sound pressure levels measured on a surface enveloping the noise source (machinery or equipment) in an environment that approximates to an acoustic free field near one or more reflecting planes. The sound power level (or, in the case of noise bursts or transient noise emission, the sound energy level) produced by the noise source, in frequency bands or with A-weighting applied, is calculated using those measurements.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3744:2010 en

€ 161.21

NEN-EN-ISO 3745:2012

Akoestiek - Bepaling van geluidvermogenniveaus en geluidenergieniveaus van geluidbronnen bij gebruik van geluiddruk - Precisiemethoden die gebruik maken van een echovrije of semi-echovrije ruimte

This International Standard specifies methods for measuring the sound pressure levels on a measurement surface enveloping a noise source (machinery or equipment) in an anechoic room or a hemi-anechoic room. The sound power level (or, in the case of impulsive or transient noise emission, the sound energy level) produced by the noise source, in frequency bands of width one-third octave or with frequency weighting A applied, is calculated using those measurements, including corrections to allow for any differences between the meteorological conditions at the time and place of the test and those corresponding to a reference characteristic acoustic impedance. In general, the frequency range of interest includes the one-third-octave bands with mid-band frequencies from 100 Hz to 10 000 Hz. In practice, the range is extended or restricted to frequencies beyond or within these limits, to those between which the test room is qualified for the purposes of the measurements.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3745:2012 en

€ 161.21

NEN-EN-ISO 3745:2012/A1:2017

Akoestiek - Bepaling van geluidvermogenniveaus en geluidenergieniveaus van geluidbronnen bij gebruik van geluiddruk - Precisiemethoden die gebruik maken van een echovrije of semi-echovrije ruimte

Type B

NEN-EN-ISO 3745:2012/A1:2017 en

€ 14.49

NEN-EN-ISO 3746:2010

Akoestiek - Bepaling van geluidvermogenniveaus en geluidenergieniveaus van geluidbronnen met behulp van geluiddrukmetingen - Globale methode met behulp van een omhullend meetoppervlak boven een reflecterend oppervlak

This International Standard specifies methods for determining the sound power level or sound energy level of a noise source from sound pressure levels measured on a surface enveloping a noise source (machinery or equipment) in a test environment for which requirements are given. The sound power level (or, in the case of noise bursts or transient noise emission, the sound energy level) produced by the noise source with frequency A-weighting applied is calculated using those measurements. The methods specified in this International Standard are suitable for all types of noise (steady, non-steady, fluctuating, isolated bursts of sound energy, etc.) defined in ISO 12001. This International Standard is applicable to all types and sizes of noise source (e.g. stationary or slowly moving plant, installation, machine, component or sub-assembly), provided the conditions for the measurements can be met. The test environments that are applicable for measurements made in accordance with this International Standard can be located indoors or outdoors, with one or more sound-reflecting planes present on or near which the noise source under test is mounted. Information is given on the uncertainty of the sound power levels and sound energy levels determined in accordance with this International Standard, for measurements made with frequency A-weighting applied. The uncertainty conforms with that of ISO 12001:1996, accuracy grade 3 (survey grade).

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 3746:2010 en

€ 143.10

NEN-EN-ISO 3747:2010

Akoestiek - Bepaling van geluidvermogenniveaus van geluidbronnen met geluiddruk - Vergelijkmethode voor gebruik in situ

This International Standard specifies a method for determining the sound power level or sound energy level of a noise source by comparing measured sound pressure levels emitted by a noise source (machinery or equipment) mounted in situ in a reverberant environment, with those from a calibrated reference sound source. The sound power level (or, in the case of noise bursts or transient noise emission, the sound energy level) produced by the noise source, in frequency bands of width one octave, is calculated using those measurements. The sound power level or sound energy level with frequency A-weighting applied is calculated using the octave-band levels.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 3747:2010 en

€ 143.10

NEN-EN-ISO 4871:2009

Akoestiek - Opgave en verificatie van geluidemissiewaarden van machines en apparaten

This International Standard - gives information on the declaration of noise emission values, - describes acoustical and product information to be presented in technical documents for the purposes of noise emission declaration, and - specifies a method for verifying the noise emission declaration. It is applicable to machinery and equipment. The values to be used for the purposes of noise emission declaration are either declared single number noise emission values, L_a, or declared dual number noise emission values, L_d and K. L_d is a noise emission value determined directly from measurements and K is the uncertainty associated with those measurements. L_d is the sum of L_a and K and represents an upper limit which values from repeated measurements are unlikely to exceed at a given confidence level; L_d corresponds to the stated or labeled value, L_c, defined in ISO 7574-1. The two forms of noise declaration are alternative means of representing any or all of the A-weighted sound power level, & the A-weighted emission sound pressure level at specified positions, L_{pA}, and the C-weighted peak emission sound pressure level at specified positions, L_{pC} peak. The choice as to which of the two forms is used in a particular case depends upon the requirements to be fulfilled. This selection is made, and guidance on the values of K is given, in the appropriate noise test code. Guidelines for determining declared noise emission values are given in annex A.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 4871:2009 en

€ 79.70

NEN-EN-ISO 5136:2009

Akoestiek - Bepaling van het geluidvermogen dat door ventilatoren en andere luchtverplaatsende toestellen in kanalen wordt afgestraald - Methode voor metingen in het kanaal

This International Standard specifies a method for testing ducted fans and other air-moving devices to determine the sound power radiated into an anechoically terminated duct on the inlet and/or outlet side of the equipment. The method is applicable to fans which emit steady, broad-band, narrow-band and discrete-frequency sound and to air temperatures between - 50 °C and + 70 °C. The test duct diameter range is from 0,15 m to 2 m. Test methods for small (d > 0,15 m) and large (d > 2 m) test ducts are described in the informative Annexes H and I, respectively. The maximum mean flow velocity at the microphone head for which the method is suitable depends on the type of microphone shield used, and is as follows: - foam ball 15 m/s; - nose cone 20 m/s; - sampling tube 40 m/s. Above these values the suppression of turbulent pressure fluctuations by the microphone shield (see 3.9) may be insufficient. It is expected that sound power tests will be conducted in conjunction with airflow performance tests in accordance with ISO 5801. The ducting arrangement will therefore normally incorporate a "star" type flow straightener on the outlet side of the fan which will minimize swirl (see 7.3). Where it is permissible to delete the straightener as, for example, with large fans to installation category C according to ISO 5801:1997, the method is limited to a swirl angle of 15°. (An example of a method for determining the angle of swirl is given in Annex J.).

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 5136:2009 en

€ 161.21

NEN-EN-ISO 7235:2009

Akoestiek - Laboratorium meetprocedures voor geluiddempers in kanalen en luchtverdeelsystemen - Tussenschakelverzwakking, stromingsgeluid en totaal drukverlies

This International Standard specifies methods for determining the insertion loss, in frequency bands, of ducted silencers with and without airflow, the sound power level, in frequency bands, of the flow noise (or regenerated sound) generated by ducted silencers, the total pressure loss of silencers with airflow, and the transmission loss, in frequency bands, of air-terminal units. The measurement procedures are intended for laboratory measurements at ambient temperature. Measurements on silencers *in situ* are specified in ISO 11820. It is to be noted that the results determined in a laboratory according to this International Standard will not necessarily be the same as those obtained *in situ* (installation), as different sound and flow fields will yield different results. For example, the pressure loss will be lower under laboratory conditions than *in situ*, but will be comparable between different laboratories. This International Standard is applicable to all types of silencer including silencers for ventilating and airconditioning systems, air intake and exhaust of flue gases, and similar applications. Other passive air-handling devices, such as bends, air-terminal units or T-connectors, can also be tested using this International Standard.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 7235:2009 en

€ 143.10

NEN-EN-ISO 9614-1:2009

Akoestiek - Bepaling van geluidvermogenniveaus van geluidbronnen via de meting van geluidintensiteiten - Deel 1: Metingen op vaste punten

This part of ISO 9614 specifies a method for measuring the component of sound intensity normal to a measurement surface which is chosen so as to enclose the noise source(s) of which the sound power level is to be determined. The one-octave, one-third octave or band-limited weighted sound power level is calculated from the measured values. The method is applicable to any source for which a physically stationary measurement surface can be defined, and on which the noise generated by the source is stationary in time (as defined in 3.13). The source is defined by the choice of measurement surface. The method is applicable *in situ*, or in special purpose test environments.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 9614-1:2009 en

€ 106.87

NEN-EN-ISO 9614-3:2009

Akoestiek - Bepaling van geluidvermogenniveaus van geluidbronnen met behulp van geluidintensiteitsmetingen - Deel 3: Precisiemethode voor meting door middel van scannen

1.1 This part of ISO 9614 specifies a method for measuring the component of sound intensity normal to a measurement surface which is chosen so as to enclose the noise source(s) of which the sound power level is to be determined. Surface integration of the intensity component normal to the measurement surface is approximated by subdividing the measurement surface into contiguous partial surfaces, and scanning the intensity probe over each partial surface along a continuous path which covers the extent of the partial surface. The measurement instrument determines the averaged normal intensity component and averaged squared sound pressure over the duration of each scan. The scanning operation can be performed either manually or by means of a mechanical system. The octave band or band-limited weighted sound power level is calculated from the measured one-third-octave band values. The method is applicable to any source for which a physically stationary measurement surface can be defined, and on which the sound generated by the source under test and by other significant extraneous sources are stationary in time. The source is defined by the choice of measurement surface. The method is applicable in specific test environments fulfilling all relevant requirements of this part of ISO 9614. This part of ISO 9614 specifies certain ancillary procedures, described in annex C, to be followed in conjunction with the sound power determination. The results are used to indicate the quality of the determination, and hence the grade of accuracy. If the quality of the determination does not meet the requirements of this part of ISO 9614, the test procedure shall be modified in the manner indicated.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 9614-3:2009 en

€ 124.99

NEN-EN-ISO 11200:2014

Akoestiek - Geluid uitgestraald door machines en toestellen - Handleiding voor het gebruik van basisnormen voor het meten van geluiddrukniveaus op een werkplek en op andere aangegeven plekken

NEN-EN-ISO 11200 is the frame standard introducing the basic group, ISO 11201, ISO 11202, ISO 11203, ISO 11204 and ISO 11205, on the determination of emission sound pressure levels at work stations and other specified positions. It gives guidance for: - facilitating the writing of noise test codes; - providing physical explanations of this noise emission quantity compared to other noise quantities (see 4.1 to 4.3); - comparing the different measurement methods offered by the group (see Table 1); - facilitating the choice of the most appropriate method(s) in typical practical situations (Clause 6). This International Standard is largely based on flow charts and tables. Case studies are described. The guidance given applies to airborne sound only. It is for use in noise testing, in general, and in the preparation of noise test codes, in particular. A standardized noise test code is intended to select standards from the ISO 11201, ISO 11202, ISO 11203, ISO 11204 and ISO 11205 group, which are the most appropriate to the machinery family it covers, and which give detailed requirements on mounting and operating conditions for the particular family, as well as the location of the work station(s) and other specified positions as prescribed in these International Standards. The data so obtained can be used for the declaration and verification of emission sound pressure levels, e.g. as specified in ISO 4871.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 11200:2014 en

€ 143.10

NEN-EN-ISO 11201:2010

Akoestiek - Geluid uitgestraald door machines en toestellen - Het meten van geluiddrukniveaus op de werkplek en op andere aangegeven plekken - Praktijkmethode voor een bij benadering vrij veld boven een reflecterend oppervlak

This International Standard specifies a method for determining the emission sound pressure levels of machinery or equipment, at a work station and at other specified positions nearby, in an essentially free field over a reflecting plane. A work station is occupied by an operator and may be located in open space, in the room where the source under test operates, in a cab fixed to the source under test, or in an enclosure remote from the source under test. One or more specified positions may be located in the vicinity of a work station, or in the vicinity of an attended or unattended machine. Such positions are sometimes referred to as bystander positions. Emission sound pressure levels are determined as A-weighted levels. Additionally, levels in frequency bands and C-weighted peak emission sound pressure levels can be determined in accordance with this International Standard, if required.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 11201:2010 en

€ 124.99

NEN-EN-ISO 11202:2010

Akoestiek - Geluid uitgestraald door machines en toestellen - Meting van geluiddrukniveaus op een werkplek en op andere aangegeven plekken met toepassing van geschatte omgevingscorrecties

This International Standard specifies a method for determining the emission sound pressure levels of machinery or equipment, at a work station and at other specified positions nearby, in situ. A work station is occupied by an operator and may be located in open space, in the room where the source under test operates, in a cab fixed to the source under test, or in an enclosure remote from the source under test. One or more specified positions may be located in the vicinity of a work station, or in the vicinity of an attended or unattended machine. Such positions are sometimes referred to as bystander positions. Emission sound pressure levels are determined as A-weighted levels. Additionally, levels in frequency bands and C-weighted peak emission sound pressure levels can be determined in accordance with this International Standard, if required.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 11202:2010 en

€ 143.10

NEN-EN-ISO 11203:2009

Akoestiek - Geluid uitgestraald door machines en toestellen - Bepaling van geluiddrukniveaus op de werkplek en op andere aangegeven plekken

This standard specifies methods for determining the emission sound pressure levels at the work station and at other specified positions in the vicinity of machinery and equipment from the sound power level. In general, these sound pressure levels are different from those that would be observed when the machinery or equipment is operating in its normal surroundings where the environment may influence the emission sound pressure level. This standard prescribes two methods for determining the emission sound pressure levels of machinery and equipment, at work stations and at other specified positions nearby, by calculation from the sound power level. The principal purpose of this determination is to permit comparison of the performance of different units of a given family of machinery or equipment, under defined environmental conditions and standardized mounting and operating conditions. This Standard is in principle applicable to moving or stationary machines, for indoor or outdoor use, particularly those machines which are mass-produced. The methods given in this Standard are not applicable to highly directional sound sources used outdoors.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 11203:2009 en

€ 52.53

NEN-EN-ISO 11204:2010

Akoestiek - Geluid uitgestraald door machines en toestellen - Meting van geluiddrukniveaus op een werkplek en op andere aangegeven plekken met toepassing van nauwkeurige omgevingscorrecties

This International Standard specifies a method for determining the emission sound pressure levels of machinery or equipment, at a work station and at other specified positions nearby, in any environment which meets certain qualification requirements. A work station is occupied by an operator and may be located in open space, in the room where the source under test operates, in a cab fixed to the source under test, or in an enclosure remote from the source under test. One or more specified positions may be located in the vicinity of a work station, or in the vicinity of an attended or unattended machine. Such positions are sometimes referred to as bystander positions. Emission sound pressure levels are determined as A-weighted levels. Additionally, levels in frequency bands and C-weighted peak emission sound pressure levels can be determined in accordance with this International Standard, if required.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 11204:2010 en

€ 143.10

NEN-EN-ISO 11205:2009

Akoestiek - Geluid uitgestraald door machines en toestellen - Praktijkmethode voor de bepaling van geluiddrukniveaus op de werkplek en op andere aangegeven plekken

This International Standard specifies an engineering method (grade 2 accuracy) to determine the emission sound pressure level of machines in situ, at the work station or at other specified positions, using sound intensity. It is an alternative to ISO 11201, ISO 11202 and ISO 11204 for in situ measurements. It is applicable to all kinds of test environments provided that the requirements on background noise and field indicators are fulfilled. This International Standard is applicable to equipment emitting stationary broadband noise. The noise can differ between operational cycles and can be with or without discrete frequency or narrow band components.

Type B 2006/42/EG Geverifieerd

NEN-EN-ISO 11205:2009 en

€ 79.70

NEN-EN-ISO 11546-1:2009

Akoestiek - Bepaling van de geluidsisolerende eigenschappen van omkastingen - Deel 1: Metingen onder laboratoriumomstandigheden (voor karakteriseringsoeleinden)

This part of ISO 11546 specifies laboratory methods for the determination of the Sound insulation performance (insertion loss) of small machine enclosures. It applies to a total enclosure only and not to the individual Panels from which the enclosure is made. The measurement methods specified in this part of ISO 11546 are based on International Standards in the series ISO 3740, ISO 9614 and ISO 11200 (see table 1). Depending on the method Chosen, the Sound insulation Performance (insertion loss) of the enclosure is determined in terms of the reduction of Sound power level or Sound pressure level. Methods are given for measurements where the enclosure surrounds the actual Sound Source (machine). Where these methods are not practicable, alternative measurements can be performed using a reciprocity method (see definition 3.11 and subclause 7.2) or an artificial Sound Source.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11546-1:2009 en

€ 79.70

NEN-EN-ISO 11546-2:2009

Akoestiek - Bepaling van de geluidisolerende eigenschappen van omkastingen - Deel 2: Meting onder praktijkomstandigheden (voor afname en verificatie)

This part of ISO 11546 specifies in situ methods for the determination of the Sound insulation performante (insertion loss) of machine enclosures. It applies to a total enclosure only and not to the individual Panels from which the enclosure is made. ISO 11546 are based on International Standards in the series ISO 3740, ISO 9614 and ISO 11200 (see table 1). Depending on the method Chosen, the Sound insulation Performance (insertion loss) of the enclosure is determined in terms of the reduction of Sound power level or Sound pressure level. Methods are given for measurements where the enclosure surrounds the actual Sound Source (machine). When these methods are not practicable, alternative measurements can be performed with an artificial Sound Source. Such methods are also described in this part of ISO 11546.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11546-2:2009 en

€ 79.70

NPR-CEN-ISO/TR 11688-1:2009

Akoestiek - Aanbevolen praktijk voor het ontwerp van machines en apparatuur met een laag geluidsniveau - Deel 1: Planning

This International Technical Report is an aid to understanding the basic concepts of noise control in machinery and equipment. The recommended practice presented here is intended to assist the designer at any design stage to control the noise of the final product. Methodical development of products was chosen as a basis for the structure of this document (see Clause 4). The list of design rules given in this International Technical Report is not exhaustive. Other technical measures for reducing noise at the design stage may be used if their efficacy is identical or higher. To solve problems going beyond the scope of this International Technical Report, the designer can refer to the bibliography in Annex D, which presents the general state of acoustic handbooks at the time of publication. Furthermore, reference is made to the numerous technical publications dealing with acoustical problems.

Type B 2006/42/EG Geharmoniseerd

NPR-CEN-ISO/TR 11688-1:2009 en

€ 106.87

NEN-EN-ISO 11691:2009

Akoestiek - Meting van de tussenschakelverzwakking van geluiddempers in kanalen zonder stroming - Globale laboratoriummethode

This International Standard specifies a laboratory substitution method to determine the insertion loss without flow of ducted, mainly absorbent, circular and rectangular silencers, as well as other duct elements for use in ventilating and air-conditioning systems. This International Standard is applicable to silencers where the design velocity does not exceed 15 m/s. As the method does not include self-generated flow noise, this International Standard is not suitable for tests on silencers where this type of noise is of great importance for the evaluation of the silencer performance. The insertion loss determined according to this International Standard in a laboratory will not necessarily be the same as the insertion loss that will be obtained in an installation in the field. Different sound and flow fields in the duct will yield different results. As this International Standard requires regular test ducts, the results may include some flanking transmission via structural vibrations in the duct walls, that sets an upper limit to the insertion loss that can be determined.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11691:2009 en

€ 34.42

NEN-EN-ISO 11957:2009

Akoestiek - Bepaling van de geluidisolerende eigenschappen van cabines - Metingen in het laboratorium en in situ

This International Standard specifies a laboratory method (clause 6) and in situ methods (clause 7) for the determination of the sound insulation performance of sound-protecting cabins. The sound insulation performance is the reduction in sound pressure level or sound power level afforded by the cabin. The methods are applicable to cabins with a small leak ratio ($e \leq 2\%$). This International Standard is applicable to a complete cabin only and not to the individual components from which it is made.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11957:2009 en

€ 52.53

NEN-EN-ISO 12001:2009

Akoestiek - Geluid uitgestraald door machines en apparaten - Regels voor het opstellen en presenteren van machinespecifieke normen voor geluidemissie

This International Standard specifies the technical requirements of a noise test code for a specific family of machinery or equipment. It is primarily applicable to stationary machinery and equipment, including hand-held tools, as well as those that present hazards due to mobility or load lifting. The purpose of a noise test code is to permit comparable test results to be obtained on the noise emissions of machines from the same family, thus enabling users to make comparisons and to check the declared noise emission data. The quantities described in a noise test code are also useful for noise specifications in private contracts, for planning and for noise reduction purposes. Specific test codes for various types of machinery and with the requirements of basic International Standards. Standardized noise test codes give detailed requirements on mounting, loading and operating conditions for the particular family to which the machinery under test belongs, as well as the location of a work station(s) and other specified positions (if any).

Type B

NEN-EN-ISO 12001:2009 en

€ 79.70

Las- en laserveiligheid**NEN-EN-ISO 11145:2016**

Optiek en optische instrumenten - Lasers en aanverwante apparatuur - Woordenlijst en symbolen

NEN-EN-ISO 11145 defines basic terms, symbols, and units of measurement for the field of laser technology in order to unify the terminology and to arrive at clear definitions and reproducible tests of beam parameters and laser-oriented product properties.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11145:2016 en

€ 106.87

NEN-EN-ISO 11252:2013

Lasers en laserapparatuur - Lasertoestel - Minimumvereisten voor documentatie

This International Standard specifies the minimum documentation, marking and labelling for all laser products classified in accordance with IEC 60825-1 including laser diodes and all laser devices defined in ISO 11145. It is applicable to laser systems being integrated in a laser product in accordance with IEC 60825-1 and laser devices being integrated in a laser unit or processing machine in accordance with ISO 11553-1 and ISO 11553-2. This International Standard is not applicable to (ready-to-use) complete laser products, embedded laser products without external laser emission by means of protective enclosure or laser processing machines that incorporate a laser device. This International Standard is not applicable to incoherent lamps and other similar sources such as LEDs that are required to comply with IEC 62471. This International Standard specifies requirements for technical data sheets (see Clause 5) and information for the user (see Clause 6). The requirements in this International Standard augment but do not supersede any of the requirements in IEC 60825-1.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11252:2013 en

€ 52.53

NEN-EN-ISO 11553-1:2009

Veiligheid van machines - Machines die gebruik maken van lasers - Veiligheidseisen

This part of ISO 11553 describes hazards generated by laser processing machines, as defined in 3.2, and specifies the safety requirements relating to radiation hazards and hazards generated by materials and substances. It also specifies the information to be supplied by the manufacturers of such equipment. Requirements dealing with noise as a hazard from laser processing machines are not included in this part of ISO 11553. They will be included in a subsequent amendment. This part of ISO 11553 is not applicable to laser products, or equipment containing such products, which are manufactured solely and expressly for the following applications: ¢ photolithography; ¢ stereolithography; ¢ holography; ¢ medical applications (per IEC 60601- 2-22); ¢ data storage.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11553-1:2009 en

€ 79.70

NEN-EN-ISO 11553-2:2009

Veiligheid van machines - Machines die gebruik maken van lasers - Deel 2: Veiligheidseisen voor handmatige machines die gebruik maken van lasers

This part of ISO 11553 specifies the requirements for laser processing devices, as defined in ISO 11553-1, which are hand-held or hand-operated. The purpose of this part of ISO 11553 is to draw attention to the particular hazards related to the use of hand-held laser and hand-operated laser processing devices and to prevent personal injury. This includes both the areas of hazard analysis and risk assessment as well as protective measures. Requirements concerning noise as a hazard are not included in this part of ISO 11553. These requirements are to be included in a subsequent amendment. This part of ISO 11553 does not apply to laser products or equipment manufactured solely or expressly for applications which are excluded from the scope of ISO 11553-1.

Type B 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11553-2:2009 en

€ 106.87

NEN-EN-ISO 11553-3:2013

Veiligheid van machines - Machines die gebruik maken van lasers - Deel 3: Methoden voor geluidreductie en geluidmeting voor machines die gebruik maken van lasers en handgehouden bewerkingsmachines en aanverwante hulpapparatuur (grade 2 nauwkeurigheid).

This part of ISO 11553 describes the requirements to deal with noise hazards and specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration and verification of airborne noise emission from laser processing machines and hand-held laser processing devices within the scope of ISO 11553-1 and ISO 11553-2. It specifies the safety requirements relating to noise hazards. It specifies noise measurement methods, installation and operating conditions to be used for the test together with the information to be supplied by manufacturers of such equipment. This part of ISO 11553 applies to those laser processing machines and hand-held laser processing devices included in the scope of ISO 11553-1 and ISO 11553-2. Noise emission characteristics include emission sound pressure levels at work stations and the sound power level. Declared noise emission values permit comparison of laser processing machines and hand-held laser processing devices on the market. The use of this noise test code ensures the reproducibility of the determination of the characteristic noise emission values within specific limits. These limits are determined by the accuracy grade of the noise emission measuring method used. Noise emission measurements specified by this part of ISO 11553 meet the requirements of an engineering method accuracy grade 2.

Type B 2006/42/EG Gehrmoniseerd

NEN-EN-ISO 11553-3:2013 en

€ 52.53

Verlichting**NEN-EN 1837:1999+A1:2009**

Veiligheid van machines - Integrale verlichting van machines

This standard specifies the parameters of integral lighting systems designed to provide illumination in and/or at both stationary and mobile machines to enable the safe use of the machine and the efficient performance of the visual task within and/or at the machine to be carried out. This standard does not specify lighting systems mounted on the machine to specifically illuminate visual tasks outside the machine. The function and requirements of these systems are specified in the European Standard dealing with the lighting of work places. This European Standard is under preparation. This standard does not establish additional requirements for the operation of lighting systems - in severe conditions (extreme environmental conditions such as freezer applications, high temperatures, etc.); - subject to special rules (e.g. explosive atmospheres); - where the transmittance is reduced by environmental conditions, such as smoke, splashing, etc.

Type B 2006/42/EG Gehrmoniseerd

NEN-EN 1837:1999+A1:2009 en

€ 49.30

Normen op het gebied van veiligheidsspecificaties voor bepaalde (groepen) machines - type C normen

Bouwindustrie (machines voor de -)**NEN-EN 474-1:2006+A4:2013/Ontw. A6**

Grondverzetmachines - Veiligheid - Deel 1: Algemene eisen

Type C

NEN-EN 474-1:2006+A4:2013/Ontw. A6:2017 en

€ 16.10

NEN-EN 474-2:2006+A1:2008

Grondverzetmachines - Veiligheid - Deel 2: Eisen voor bulldozers

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to wheel and crawler tractor-dozers as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This part also deals with rear-mounted winches for use on tractor-dozers. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006. This part does not repeat the requirements from EN 474-1:2006, but adds or replaces the requirements for application for tractor-dozers. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of tractor-dozers. This European Standard is not applicable to tractor-dozers manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 474-2:2006+A1:2008 en

€ 49.30

NEN-EN 474-3:2006+A1:2009

Grondverzetmachines - Veiligheid - Deel 3: Eisen voor laadschoppen

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to loaders as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This part also deals with fork application, single heavy object handling application, object handling application and log handling. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A1:2009. This part does not repeat the requirements from EN 474-1:2006+A1:2009, but adds or replaces the requirements for application for loaders. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of loaders. This European Standard is not applicable to loaders manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 474-3:2006+A1:2009 en

€ 49.30

NEN-EN 474-4:2006+A2:2012**Grondverzetmachines - Veiligheid - Deel 4: Eisen voor graaflaadcombinaties**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to wheel and crawler backhoe loaders as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This part also deals with fork application, object handling application and log handling. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A1:2009. This does not repeat the requirements from EN 474-1:2006+A1:2009, but adds or replaces the requirements for application for backhoe loaders. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of backhoe loaders. This European Standard is not applicable to machinery manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-4:2006+A2:2012 en

€ 49.30

NEN-EN 474-5:2006+A3:2013**Grondverzetmachines - Veiligheid - Deel 5: Eisen voor hydraulische graafmachines**

This part of EN 474 deals with all specific significant hazards, hazardous situations and events relevant to hydraulic excavators as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This part also deals with object handling application, shovel application and log application. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A3:2013. This part does not repeat the requirements from EN 474-1:2006+A3:2013, but adds or replaces the requirements for application for hydraulic excavators. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of hydraulic excavators. This European Standard is not applicable to hydraulic excavators manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-5:2006+A3:2013 en

€ 61.30

NEN-EN 474-6:2006+A1:2009**Grondverzetmachines - Veiligheid - Deel 6: Eisen voor zelfrijdende dumpers en motorkipwagens**

Type C 2006/42/EG Geverifieerd

NEN-EN 474-6:2006+A1:2009 en

€ 49.30

NEN-EN 474-7 Ontw.**Grondverzetmachines - Veiligheid - Deel 7: Eisen voor scrapers**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to wheel and crawler scrapers except towed scrapers as defined in EN ISO 6165:2012, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). The requirements of this part are complementary to the common requirements formulated in prEN 474-1:2017. This part does not repeat the requirements from prEN 474-1:2017, but adds or replaces the requirements for application for scrapers. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of scrapers. This European Standard is not applicable to scrapers manufactured before the date of publication of this European Standard by CEN. Pedestrian controlled dumpers are excluded from scope of this European Standard. This European Standard is not applicable to dumpers, manufactured before the date of publication of this European Standard by CEN.

Type C

NEN-EN 474-7:2017 Ontw. en

€ 23.50

NEN-EN 474-7:2006+A1:2009**Grondverzetmachines - Veiligheid - Deel 7: Eisen voor scrapers**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to wheel and crawler scrapers except towed scrapers as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A1:2009". This part does not repeat the requirements from "EN 474-1:2006+A1:2009", but adds or replaces the requirements for application for scrapers. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of scrapers. This European Standard is not applicable to scrapers manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-7:2006+A1:2009 en

€ 49.30

NEN-EN 474-8 Ontw.**Grondverzetmachines - Veiligheid - Deel 8: Eisen voor graders**

This document, together with part 1, deals with all significant hazards for earth-moving machinery - graders when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in prEN 474-1. This document does not repeat the requirements from prEN 474-1, but adds or replaces the requirements for application for earth moving machinery - graders. This part also deals with graders equipped with attached snowplough. This European Standard is not applicable to graders manufactured before the date of publication of this European Standard by CEN.

Type C

NEN-EN 474-8:2017 Ontw. en

€ 23.50

NEN-EN 474-8:2006+A1:2009**Grondverzetmachines - Veiligheid - Deel 8: Eisen voor graders**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to graders as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This part also deals with graders equipped with attached snowplough. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A1:2009". This part does not repeat the requirements from !EN 474-1:2006+A1:2009", but adds or replaces the requirements for application for graders. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of graders. This European Standard is not applicable to graders manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-8:2006+A1:2009 en € 49.30

NEN-EN 474-9:2006+A1:2009**Grondverzetmachines - Veiligheid - Deel 9: Eisen voor pijpleggers**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to pipelayers as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A1:2009". This part does not repeat the requirements from EN 474-1:2006+A1:2009", but adds or replaces the requirements for application for pipelayers. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of pipelayers. This part specifies additional requirements for rear mounted winches. Pipelayers with rotating upper structure are excluded from the scope of this document. However, specific requirements are under development. This European Standard is not applicable to pipelayers manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-9:2006+A1:2009 en € 49.30

NEN-EN 474-10:2006+A1:2009**Grondverzetmachines - Veiligheid - Deel 10: Eisen voor sleufgravers**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to trenchers as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006+A1:2009". This part does not deal with the specific hazards related to derivative use. This part does not repeat the requirements from EN 474-1:2006+A1:2009", but adds or replaces the requirements for application for trenchers. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of trenchers. This European Standard is not applicable to trenchers manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-10:2006+A1:2009 en € 49.30

NEN-EN 474-11:2006+A1:2008**Grondverzetmachines - Veiligheid - Deel 11: Eisen voor aarde- en vuilverdichters**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to earth and landfill compactors as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Other compactors such as roller compactors, rammer compactors and vibratory plates, which are dealt with in EN 500-1:2006 and EN 500-4:2006 are not covered in EN 474. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006. This part does not repeat the requirements from EN 474-1:2006, but adds or replaces the requirements for application for earth and landfill compactors. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of earth and landfill compactors. This part does not deal with the specific hazards related to derivative use. This European Standard is not applicable to earth and landfill compactors manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-11:2006+A1:2008 en € 49.30

NEN-EN 474-12:2006+A1:2008**Grondverzetmachines - Veiligheid - Deel 12: Kraan met kabels voor graafwerkzaamheden**

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to cable excavators as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard applies also to cable excavators, their undercarriage and upper-structure, if intended for use in combination with other equipment or attachment, such as drill rigs, pile driving and extracting equipment and moving equipment (e.g. rail track, walking legs, pontoon, ship) or stationary undercarriage. This European Standard is not dealing with the specific hazards due to these additional equipment or attachment. The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006. This part does not repeat the requirements from EN 474-1:2006, but adds or replaces the requirements for application for cable excavators. This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of the machinery in the scope. This European Standard is not applicable to cable excavators manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 474-12:2006+A1:2008 en € 61.30

NEN-EN 474-13 Ontw.**Grondverzetmachines - Veiligheid - Deel 13: Eisen voor rollers**

This document, together with part 1, deals with all significant hazards for earth-moving machinery - rollers when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in prEN 474-1. This document does not repeat the requirements from prEN 474-1, but adds or replaces the requirements for application for earth moving machinery - rollers. This part of prEN 474 is not applicable for seated ride-on operated rollers with a drum width less than nominal 0,8 m.

Type C

NEN-EN 474-13:2017 Ontw. en

€ 35.70

NEN-EN 500-1:2006+A1:2009**Mobiele wegenbouwmachines - Veiligheid - Deel 1: Algemene eisen**

This part of EN 500 specifies the common safety requirements for mobile road construction machinery 1) . The EN 500 series is applicable to mobile road construction machinery as listed in Annex A. When no specific standard exists, EN 500-1 applies. It specifies common requirements for the design and construction of mobile road construction machinery in order to protect workers from accidents and health hazards which could occur during operation, loading, transport and maintenance. Additional specific requirements for certain types of mobile road construction machinery are given in parts 2 to 4 and 6 of this standard. This part of this standard gives safety requirements for all types of mobile road construction machinery and shall be used in conjunction with one of the parts 2 to 4 and 6. These machine-specific parts do not repeat the requirements from part 1 but add to or replace the requirements for the type of mobile road construction machinery in question. Machine-specific requirements in parts 2 to 4 and 6 take precedence over the respective requirements of this standard. For types of mobile road construction machinery not dealt with in parts 2 to 4 and 6, EN 500-1 applies !and if for those machinery additional derived risks may arise, these risks have to be taken into consideration". This European Standard deals with all significant hazards, hazardous situations and events relevant to mobile road construction machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards as specified in Clause 4. This European Standard applies to machines which are manufactured after the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverniseerd

NEN-EN 500-1:2006+A1:2009 en

€ 74.30

NEN-EN 500-2:2006+A1:2008**Mobiele wegenbouwmachines - Veiligheid - Deel 2: Bijzondere eisen voor wegenfreesmachines**

This part of EN 500 specifies the safety requirements for road-milling machines as defined in Clause 3 and deals with all significant hazards, hazardous situations and events relevant to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable. This part of EN 500 contains additional requirements to EN 500-1 "Common requirements".

Type C 2006/42/EG Geverniseerd

NEN-EN 500-2:2006+A1:2008 en

€ 49.30

NEN-EN 500-3:2006+A1:2008**Mobiele wegenbouwmachines - Veiligheid - Deel 3: Bijzondere eisen voor machines voor de bodemstabilisatie**

This part of EN 500 specifies the safety requirements for soil-stabilising machines and recycling machines as defined in Clause 3 and deals with all significant hazards, hazardous situations and events relevant to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable. This part of EN 500 contains additional requirements to EN 500-1 "Common requirements".

Type C 2006/42/EG Geverniseerd

NEN-EN 500-3:2006+A1:2008 en

€ 49.30

NEN-EN 500-4:2011**Mobiele wegenbouwmachines - Veiligheid - Deel 4: Specifieke eisen voor verdichtingsmachines**

This part of EN 500 specifies the safety requirements for compaction machines as defined in Clause 3 and deals with all significant hazards, hazardous situations and events relevant to compaction machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable. This document specifies additional requirements to and/or exceptions from EN 500-1 "Common requirements". This part of EN 500 is not applicable for seated ride-on operated rollers with a drum width less than nominal 0,8 m.

Type C 2006/42/EG Geverniseerd

NEN-EN 500-4:2011 en

€ 86.00

NEN-EN 500-6:2006+A1:2008**Mobiele wegenbouwmachines - Veiligheid - Deel 6: Bijzondere eisen voor afwerkingsmachines**

This part of EN 500 specifies the safety requirements for paver-finishers as defined in Clause 3 and deals with the significant hazards relevant to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable. This part of EN 500 contains additional requirements to EN 500-1 "Common requirements". If internal and/or external vibrators are used for concrete paving, then prEN 12649 applies.

Type C 2006/42/EG Geverniseerd

NEN-EN 500-6:2006+A1:2008 en

€ 61.30

NEN-EN 536:2015**Wegenbouwmachines - Menginstallaties voor wegenbouwmaterialen - Veiligheidseisen**

NEN-EN 536 specifies the safety requirements applicable to stationary and relocatable mixing plants for the production of materials (e.g. hot-mix asphalt, cold-mix asphalt, cement gravel) used for the construction and maintenance of traffic routes (roads, highways, sidewalks, airfields, etc.) water retaining works, dam walls, culverts, etc. This European Standard applies to the following types of mixing plant: a) hot asphalt mixing plant; b) cold mixing plant (e.g. for production of cement gravel, cold mix asphalt); c) mixing plant for bituminous or non-bituminous reclaimed materials; d) mixing plant for mastic asphalt, also including natural asphalt. Machines moving during the working process (e.g. mobile mastic asphalt mixers) and crushers are not covered by this European Standard. Those types of asphalt mixing plants can also be combined or enlarged by additional installations (e.g. Plant for storage of binders (e.g. bituminous, synthetic, vegetal). This European Standard deals with all significant hazards pertinent to mixing plants, when they are used as intended and under the conditions of misuse which are reasonably foreseen by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This European Standard does not apply to machines for the production of cement concrete and mortar as covered in EN 12151. This European Standard does not deal with hazards caused by flammable gases. As soon as information is available it will be included. This European Standard is not applicable to mixing plants for road construction materials, which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 536:2015 en

€ 86.00

NEN-EN 1009-1 Ontw.**Machines voor mechanische verwerking van mineralen en vergelijkbare vaste materialen - Veiligheid - Deel 1: Gemeenschappelijke eisen voor niet voltooide machines en verwerkingsinstallaties**

Processing mineral and by-products (cement, lime and gypsum, sand and gravel, industrial minerals, metalliferous ore, production and demolition waste, slag handling, hard and soft rock aggregates, coal) in construction and surface mining. It deals with the following types of individual machines for the mechanical processing of minerals and similar solid materials: - feeding machinery as per part 2; - crushing machinery as per part 3; - milling machinery as per part 3; - screening machinery as per part 4; - machinery for cleaning, water recycling, sorting (other than screens) and mud treatment as per part 5; - mobile and semi-mobile machinery as per part 6. This part gives the common safety requirements for mechanical processing machines used for quarrying, recycling and processing mineral and by-products (cement, lime and gypsum, sand and gravel, industrial minerals, metalliferous ore, production and demolition waste, slag handling, hard and soft rock aggregates, coal) in construction and surface mining and is intended to be used in conjunction with one of the prEN 1009-2 to -6. These machine specific parts (prEN 1009-2 to -6) do not repeat the requirements from prEN 1009-1:2017, but add or replace the requirements for the machine type in question.

Type C

NEN-EN 1009-1:2017 2e Ontw. en

€ 46.90

NEN-EN 1009-2 Ontw.**Machines voor mechanische verwerking van mineralen en vergelijkbare vaste materialen - Veiligheid - Deel 2: Specifieke eisen voor toevoer machines en voor continue handeling apparatuur.**

This part of prEN 1009 to be used together with prEN 1009-1, specifies the safety requirements and their verification for the design and construction of feeding machinery and continuous handling equipment for the mechanical processing in quarrying, recycling and processing mineral and by-products. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this part of prEN 1009 are different from those which are stated in prEN 1009-1, the requirements of this part of prEN 1009 take precedence over the requirements of prEN 1009-1 for machines that have been designed and built according to the provisions of this part of prEN 1009. This part of prEN 1009, together with prEN 1009-1, deals with all the significant hazards, hazardous situations and events relevant to feeding machinery when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Type C

NEN-EN 1009-2:2017 2e Ontw. en

€ 23.50

NEN-EN 1009-3 Ontw.**Machines voor mechanische verwerking van mineralen en vergelijkbare vaste materialen - Veiligheid - Deel 3: Specifieke eisen voor breek en maal machines**

This part of prEN 1009 to be used together with prEN 1009-1, specifies the safety requirements and their verification for the design and construction of crushing and milling machinery for the mechanical processing in quarrying, recycling and processing mineral and by-products. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this part of prEN 1009 are different from those which are stated in prEN 1009-1, the requirements of this part of prEN 1009 take precedence over the requirements of prEN 1009-1 for machines that have been designed and built according to the provisions of this part of prEN 1009. This part of prEN 1009, together with prEN 1009-1, deals with all the significant hazards, hazardous situations and events relevant to crushing and milling machinery when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Type C

NEN-EN 1009-3:2017 2e Ontw. en

€ 29.20

NEN-EN 1009-4 Ontw.

Machines voor mechanische verwerking van mineralen en vergelijkbare vaste materialen - Veiligheid - Deel 4:
Specifieke eisen voor zeef machines

This part of prEN 1009, to be used together with prEN 1009-1, specifies the safety requirements and their verification for the design and construction of screening machinery for the mechanical processing in quarrying, recycling and processing mineral and by-products as defined in 3.1. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this part of prEN 1009 are different from those which are stated in prEN 1009-1, the requirements of this part of prEN 1009 take precedence over the requirements of prEN 1009-1 for machines that have been designed and built according to the provisions of this part of prEN 1009. This part of prEN 1009, together with prEN 1009-1, deals with all the significant hazards, hazardous situations and events relevant to screening machinery when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Type C

NEN-EN 1009-4:2017 2e Ontw. en

€ 29.20

NEN-EN-ISO 2860:2008

Grondverzetmachines - Minimale afmetingen van toegangen

This International Standard specifies the minimum access openings on earth-moving machinery for: the hand, the head, the body, arm reach and two-handed reach as defined in ISO 6165 for: a. hand access, b. head access, c. body access, d. arm access. e. two-handed access. It provides engineers and designers with information in order that access openings provided in equipment and machinery for purposes of inspection, adjustment and maintenance are made large enough for the intended function by the man in the field or shop.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 2860:2008 en

€ 34.42

NEN-EN-ISO 2867:2011

Grondverzetmachines - Toegangssystemen

This International Standard specifies criteria for systems that provide access to the operator station and to routine maintenance points on earth-moving machinery as defined in ISO 6165. It is applicable to the access systems (e.g. enclosure openings, platforms, guardrails, handrails and handholds, stairways and steps, ladders) on such machines parked in accordance with the manufacturer's instructions. Its criteria are based on the 5th to 95th percentile operator dimensions as defined in ISO 3411. It deals with the following significant hazards, hazardous situations and events: slip, trip and fall of persons, unhealthy postures and excessive effort. The general principles set out in this International Standard can be used for the selection of fixed and/or portable access systems for repairs, assembly, disassembly and longer interval maintenance.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 2867:2011 en

€ 106.87

NEN-EN-ISO 3164:2013

Grondverzetmachines - Laboratorium evaluaties met betrekking tot beschermende constructies - Specificaties voor afbuiging-beperkend volume

This International Standard specifies the deflection limiting volume (DLV) to be used when performing laboratory evaluations of structures which provide protection to operators of earth-moving machinery, as defined in ISO 6165.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3164:2013 en

€ 34.42

NEN-EN-ISO 3411:2007

Grondverzetmachines - Lichaamsafmetingen van bedieners en minimale vrije werkruimte

This International Standard provides the dimensions of operators of earth-moving machinery as defined in ISO 6165 and specifies the minimum normal operating space envelope within the operator enclosures. It is not applicable to machines manufactured prior to the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3411:2007 en

€ 52.53

NEN-EN-ISO 3449:2008

Grondverzetmachines - Vallende voorwerpbescherming - Laboratoriumbeproeven en eisen

This International Standard specifies laboratory tests for measuring the structural characteristics of, and gives performance requirements in a representative test for, falling-object protective structures (FOPS) intended for use on ride-on earth-moving machines as defined in ISO 6165. It is applicable to both FOPS supplied as an integral part of the machine and those supplied separately for attachment to the machine. It is not intended to apply to FOPS intended for use on landfill compactors, excavators, rollers, trenchers, pipelayers, for the additional seat for operation of an attachment (e.g. attachment backhoe), or on machines with a power rating of less than 15 kW.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3449:2008 en

€ 79.70

NEN-EN-ISO 3450:2011

Grondverzetmachines - Remsystemen van machines met rubberbanden - Systemen en prestatie-eisen en beproeingsprocedures

This International Standard specifies minimum performance requirements and test procedures for the service, secondary and parking brake systems of wheeled and high-speed rubber-tracked earth-moving machines, for the uniform assessment of those brake systems. It is applicable to the following earth-moving machinery, operating on work sites or in mining, or travelling on public roads: - self-propelled, rubber-tyred earth-moving machines, as defined in ISO 6165; - self-propelled rollers and landfill compactors, as defined in ISO 6165 and ISO 8811; - self-propelled scrapers, as defined in ISO 7133; - remote-control machines, as defined in ISO 6165, wheeled or rubber-tracked; - derivative earth-moving machines with rubber tyres; - earth-moving machines with rubber tracks and a maximum machine speed =20 km/h. It is not applicable to pedestrian-controlled earth-moving machinery (see ISO 17063) or crawler earth-moving machines with steel or rubber tracks that travel at <20 km/h (see ISO 10265). While purpose-built underground mining machines are not within the scope of this International Standard, its provisions can generally be applied to those machines with some braking performance modifications and additions (see Annex A).

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3450:2011 en

€ 106.87

NEN-EN-ISO 3457:2008

Grondverzetmachines - Afschermingen - Definities en eisen

This International Standard defines principal terms and specifies requirements for, and characteristics of, guards and other means of protecting personnel from mechanical, fluid or thermal hazards associated with the operation and routine maintenance of earth-moving machinery as defined in ISO 6165, when used as intended by the manufacturer.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3457:2008 en

€ 52.53

NEN-EN-ISO 3471:2008

Grondverzetmachines - Kantelbeveiligingsinrichtingen - Laboratorium beproevingen en eisen

This International Standard specifies performance requirements for metallic roll-over protective structures (ROPS) for earth-moving machinery, as well as a consistent and reproducible means of evaluating the compliance with these requirements by laboratory testing using static loading on a representative specimen.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3471:2008 en

€ 124.99

NEN-EN-ISO 6682:2008

Grondverzetmachines - Comfortgebieden en bedieningsafstanden

This International Standard defines zones of comfort and reach for controls derived from the overlapping reach capability of large and small operators in the seated position.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 6682:2008 en

€ 52.53

NEN-EN-ISO 6683:2008

Grondverzetmachines - Gordels en gordelbevestigingen - Prestatie-eisen en beproevingen

This International Standard establishes the minimum performance requirements and tests for restraint systems - seat belts and their fastening elements (anchorage) - on earth-moving machinery, necessary to restrain an operator or rider within a roll-over protective structure (ROPS) in the event of a machine roll-over (see ISO 3471), or within a tip-over protection structure (TOPS) in the event of a machine tip-over (see ISO 12117).

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 6683:2008 en

€ 34.42

NEN-EN-ISO 7096:2008

Grondverzetmachines - Laboratoriumonderzoek van de trillingen van de bestuurdersstoel

This International Standard specifies, in accordance with ISO 10326-1, a laboratory method for measuring and evaluating the effectiveness of the seat suspension in reducing the vertical whole-body vibration transmitted to the operator of earth-moving machines at frequencies between 1 Hz and 20 Hz. It also specifies acceptance criteria for application to seats on different machines. This International Standard is applicable to operator seats used on earth-moving machines as defined in ISO 6165. This International Standard defines the input spectral classes required for the following earth-moving machines. Each class defines a group of machines having similar vibration characteristics: - rigid frame dumpers > 4 500 kg operating mass1 - articulated frame dumpers - scrapers without axle or frame suspension2 - wheel-loaders > 4 500 kg operating mass1) - graders - wheel-dozers - soil compactors (wheel type) - backhoe-loaders - crawler loaders - crawler-dozers u 50 000 kg operating mass1), 3- - compact dumpers u 4 500 kg operating mass1) - compact loaders u 4 500 kg operating mass1) - skid-steer loaders u 4 500 kg operating mass1) The following machines impart sufficiently low vertical vibration inputs at frequencies between 1 Hz and 20 Hz to the seat during operation that these seats do not require suspension for the attenuation of transmitted vibration: - excavators, including walking excavators and cable excavators4 - trenchers - landfill compactors - non-vibratory rollers - milling machines - pipelayers - finishers - vibratory rollers The tests and criteria defined in this International Standard are intended for operator seats used in earthmoving machines of conventional design. Vibration which reaches the operator other than through his seat, for example that sensed by his feet on the platform or control pedals or by his hands on the steering-wheel, is not covered.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 7096:2008 en

€ 106.87

NEN-EN-ISO 7096:2008/C11:2009

Grondverzetmachines - Laboratoriumonderzoek van de trillingen van de bestuurdersstoel

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 7096:2008/C11:2009 en

€ 0.00

NEN-EN 12001:2012

Machines voor het transport, het sputten en verwerking van beton en specie - Veiligheidseisen

This European Standard specifies the safety requirements for - conveying machines, - spraying machines, - placing machines, and - delivery line systems for concrete and mortar as defined in the definitions in 3.3 to 3.6. The machinery can be stationary or mobile. This European Standard does not cover: - machines that are mobile during conveying, spraying and placing concrete and mortar, e.g. separate mixing function or crane function; - requirements for operation in tunnels; - support structures (i.e. tower systems) not exclusively designed for the use with concrete distribution booms. This European Standard does not establish the additional requirements for operations subject to special rules (e.g. potentially explosive atmospheres, supply by electrical networks where voltage, frequency and tolerance differ). This European Standard deals with all significant hazards, hazardous situations and events relevant to conveying, spraying and placing machines when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during transportation, assembly, dismantling, disabling, scrapping, operation and maintenance. This European Standard is not applicable to machines which are manufactured before the date of publication of this document by CEN. from those of the public supply, earthquake, lightning, using on public roads).

Type C 2006/42/EG Geverifieerd

NEN-EN 12001:2012 en

€ 86.00

NEN-EN 12110:2014

Tunnelbouwmachines - Luchtsluizen - Veiligheidseisen

NEN-EN 12110 applies to the design, construction, equipping, marking and testing of air locks as defined in 3.3 including pressure bulkheads as defined in 3.4, which are to be used in tunnelling work. An oxygen breathing system used to provide the breathing supply necessary to conduct a safe decompression is also covered by this standard. This European Standard is not applicable to machinery and equipment which is manufactured before the date of publication of this document by CEN. This European Standard deals with all significant hazards, hazardous situations and events relevant to such machinery when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard does not cover the supply of services to the air lock. Vibration, noise and EMC (Electromagnetic compatibility) hazards are not significant hazards for air locks. This European Standard does not cover the hazards due to the mobility of the machinery.

Type C 2006/42/EG Geverifieerd

NEN-EN 12110:2014 en

€ 61.30

NEN-EN 12111:2014

Tunnelbouwmachines - Continu-graafmachines - Veiligheidseisen

NEN-EN 12111 specifies all significant hazards, hazardous situations and events relevant to road headers and continuous miners as defined in Clause 3, when they are used as intended and under the conditions foreseen by the manufacturer. Where mentioned, this standard applies also to cutter head attachments and impact hammers mounted on excavators and in tunnel shields. This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. Within the conditions stated by the manufacturer, overturning of the road header or continuous miner is not a significant hazard. Noise is not a significant hazard for cutter head attachments. Excavators and tunnel shields mentioned above are out with the scope of this standard and are covered by EN 474+A1 and EN 12336+A1 respectively. This European Standard also covers reasonably foreseeable misuse of such machinery in that compliance with the requirements of Clause 5 mitigates the risk arising from such misuse. The following items and applications are not covered by this European Standard: - the supply of electricity up to the main switch box; - use of the machine in potentially explosive atmospheres; - use of the machine under hyperbaric conditions - loading and transport equipment which is not an integral part of the machine; This European Standard covers monitoring for hazardous atmospheres. This European Standard is not applicable to machines manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12111:2014 en

€ 74.30

NEN-EN 12348:2000+A1:2009

Kernboormachines op boorkolommen - Veiligheid

This European Standard applies to core drilling machines on transportable stands equipped with a diamond core drill bit, usually with a water supply connection device, and intended to drill holes into stone, concrete and similar mineral materials in a stationary position where the power for the tool rotation is supplied by an electrical, hydraulic, pneumatic or internal combustion prime motor. The feed movement of the drill head and core drill bit may be effected by manual, mechanical or hydraulic means. This European Standard deals with all significant hazards pertinent to core drilling machines on a stand when used as intended and under the conditions foreseen by the manufacturer (see clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard does not apply to: - percussive or rotary-percussive rock drills either mounted or unmounted; - hand held power drills; - hydraulic or pneumatic power supply sources; - mobile undercarriages to which machines can be fitted. This European Standard does not apply to machinery covered by EN 791:1995. This European Standard covers electrical hazards by making reference to relevant European Standards (see 5.2). Those hazards that are relevant for all mechanical, electrical, hydraulic and other equipment of machinery and that are dealt with in standards for common use are not covered by this European Standard. Reference to pertinent standards of this kind is made where such standards are applicable and so far as is necessary. In this European Standard, core drilling machines on a stand are called "machines" and diamond core drill bits are called "tools".

Type C 2006/42/EG Geverifieerd

NEN-EN 12348:2000+A1:2009 en

€ 61.30

NEN-EN 12418:2000+A1:2009**Steenstijlmachines voor gebruik op de bouwplaats - Veiligheid**

This European Standard applies to transportable masonry and stone cutting-off machines stationary during work, principally used on job site building construction for cutting-off stones, other mineral construction materials and composite materials having at least one supporting surface. The power for the tool rotation is supplied by electrical or internal combustion prime motor. This European Standard deals with all significant hazards pertinent to masonry and stone cutting-off machines for job site (see clause 4), when they are used as intended and under the conditions foreseen by the manufacturer. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. These machines are designed for use with rotating diamond cutting-off wheels with a continuous rim and/or segmented rim. This European Standard does not apply to: - metal cutting-off machines; - wood and timber sawing machines; - machines with a feed or descent mechanism other than manual, or with a pedal; - mobile machines on a trolley travelling on the ground; - hand-held portable grinding and cutting-off machines; - hand-held portable grinding and cutting-off machines mounted on a support to be used in a fixed position. This European Standard does not cover the operation of transportable masonry and stone cutting-off machines in potential explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN 12418:2000+A1:2009 en

€ 74.30

NEN-EN 12609 Ontw.**Betonmixers - Veiligheidseisen**

This European Standard specifies the safety requirements for truck mixers. This document also covers the interfaces on the mixing unit side with the truck or trailer (but not the truck or trailer itself). NOTE 1 Truck or trailer constructed primarily for the carriage of goods as classified according to directive 2007/46/EC, category N3 or O4.

Type C

NEN-EN 12609:2017 Ontw. en

€ 35.70

NEN-EN 12629-1:2000+A1:2010**Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 1: Gemeenschappelijke eisen**

This European Standard applies to machines for the manufacture of constructional products from concrete and/or calcium silicate examples of which are listed in annex A of this part. It gives concepts and general and common requirements for the design, operation and maintenance of such machines. !This European Standard deals with hazards listed in Clause 4 which can arise during the operation and maintenance, including the interfaces, of the machines for the manufacture of constructional products from concrete and calcium silicate, when carried out as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. Part 2 to 8 of this standard give additional specific requirements and therefore have to be applied together with this part. The preparation of concrete and/or calcium-silicate mixture and the transport from the mixer to the manufacturing plant are not part of this European Standard (see !EN 12151:2007). The equipment for the transport and handling of formed products, other than the integrated transport system, is not covered by this standard. At the time of drafting, machine specific noise test codes for EN 12629-2 to -8 are not available to fulfill the requirements of 5.7.2 and 7.4.2. When they are available, they will be incorporated in these standards. This document is not applicable to machines for the manufacture of constructional products from concrete and/or calcium silicate, which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-1:2000+A1:2010 en

€ 61.30

NEN-EN 12629-2:2003+A1:2010**Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 2: Steenvormmachines**

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to machines for the manufacture of blocks, kerbs, paving stones and similar concrete products. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This European Standard applies to the machines from the point at which the mixture enters the machine (see point 1-2 of annex B) and the point where the pallet boards are brought to the assembly (see point 3 of annex B) until the point where the green products are removed from the machine assembly to the curing system (see point 4 of annex B). This European Standard deals with the hazards deleted text listed in clause 4 which can arise during the operation and maintenance, including the interfaces, of the block making machines, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This standard establishes safety requirements and/or methods of protection which apply to these machines.

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-2:2003+A1:2010 en

€ 49.30

NEN-EN 12629-3:2003+A1:2010**Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 3: Machines met glij- en draaitafels**

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to machines for the manufacture of constructional products of calcium-silicate or concrete, where the mould(s) is(are) mounted on a turning or slide table. The motive power for compressing the mixture is effected either mechanically (Annexes A, B), or hydraulically (Annexes C and D). EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards." This European Standard applies to the machines from the point at which the mixture enters the machine (see point 1 of annexes A, B, C, D) and the point where the pallets for concrete products are brought to the assembly (see point 8 at annexes C and D) until the point where the green products are removed from the machine to the curing system (see point 2 of annexes A, B, C, D). This European Standard deals with the hazards listed in Clause 4 which can arise during the operation and maintenance, including the interfaces, of the slide and turntable machines, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This standard establishes safety requirements and/or methods of protection which apply to these machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12629-3:2003+A1:2010 en

€ 49.30

NEN-EN 12629-4:2001+A1:2010**Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 4: Betonmachines voor dakpannen**

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to concrete roof tile making machines. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. Limits of the machine The tile making machine is considered to begin at the point where moulds and/or the concrete are delivered to the fixed part of the machine and ends after the tile cutting process where products on their moulds are delivered on to an outfeed conveyor (see Annexes A and B). Moulds and concrete may be delivered to and removed from the machine by hand. The preparation of the concrete mixture and the transport from the mixer to the machine are not covered by this standard. The equipment for the transport and handling of formed products is not covered by this standard. This European Standard deals with all significant hazards pertinent to these machines, including the interfaces, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard establishes safety requirements and/or methods of protection which applies to these machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12629-4:2001+A1:2010 en

€ 49.30

NEN-EN 12629-5-1:2004+A1:2010**Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 5-1: Machines voor het maken van buizen in verticale richting**

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to machines for vertical manufacture of pipes, manholes and similar elements from concrete. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard establishes safety requirements and/or methods of protection which applies to these machines. This European standard applies to the pipe making machines manufacturing in the vertical axis which may form an integral part of a pipe making process plant. This document is not applicable to pipe making machines manufacturing in the vertical axis, which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12629-5-1:2004+A1:2010 en

€ 61.30

NEN-EN 12629-5-2:2004+A1:2010**Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 5-2: Machines voor het maken van buizen in horizontale richting**

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to machines for the manufacture of pipes in the horizontal axis and similar elements from concrete. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard establishes safety requirements and/or methods of protection which applies to these machines. This European standard applies to the pipe making machines manufacturing in horizontal axis which may form an integral part of a pipe making process plant.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12629-5-2:2004+A1:2010 en

€ 49.30

NEN-EN 12629-5-3:2003+A1:2010

Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 5-3:
Machines voor voorgespannen buis

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to pipe prestressing machines as defined in Clause 3. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers." This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards."deleted text" This standard establishes safety requirements and/or methods of protection which applies to these machines. This European standard applies to the concrete pipe prestressing machines which may form an integral part of a pipe making process plant. This document is not applicable to pipe prestressing machines, which are manufactured before the date of publication of this document by CEN."

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-5-3:2003+A1:2010 en

€ 49.30

NEN-EN 12629-5-4:2004+A1:2010

Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 5-4:
Machines voor betonbuizen

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to concrete pipe coating machines as defined in Clause 3. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard establishes safety requirements and/or methods of protection which applies to these machines. This European standard applies to the concrete pipe coating making machines which may form an integral part of a pipe making process plant. This document is not applicable to concrete pipe coating machines, which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-5-4:2004+A1:2010 en

€ 49.30

NEN-EN 12629-6:2004+A1:2010

Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 6: Stationaire en mobiele uitrusting voor de vervaardiging van vooraf versterkte producten

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to stationary and mobile equipment for the manufacture of precast reinforced products as defined in Clause 3 and applies to these machines also when used for the manufacture of non-reinforced moulded products. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This document applies to the modules comprising production machines (with or without turnover demoulding) for the manufacturing of reinforced moulded products as shown below and illustrated in informative Annexes A and B.

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-6:2004+A1:2010 en

€ 61.30

NEN-EN 12629-7:2004+A1:2010

Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 7: Stationaire en mobiele uitrusting voor de vervaardiging van voorgespannen producten

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010 applies to stationary and mobile equipment for the benching manufacture of prestressed products. The manufacturing bed is a machine with which other associated machines work simultaneously. Moreover, these machines are generally used on beds installed in parallel. EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This standard gives particular requirements for the design of the following machines: - Pre-stressing bed (schematic representation is given in annex A); - Bed sweeper, vacuum cleaner, oiler, wire-guide machine (schematic representation is given in annex B); - Bed layout machine (schematic representation is given in annex C); - Strand pushing/pulling machine (schematic representation is given in annex D); - Spinner, extruder, vibrodistributor (schematic representation is given in annex E); - Tarpaulin paying out and winding in machine (schematic representation is given in annex F); - Sawing machine (schematic representation is given in annex G). The concrete supply interface which is taken into account for safety is also considered. The sequence of these operations can be different according to the manufacturing process used in the factory and to the various types of products. The handling of the cut wires and their placement on beds is not covered by the present standard. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. Sub-clause 1.3 of EN 12629-1:2000+A1:2010 applies. This document is applicable to equipment for long-line manufacture of pre-stressed product which are manufactured after the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-7:2004+A1:2010 en

€ 98.50

NEN-EN 12629-8:2003+A1:2010

Machines voor de vervaardiging van bouwproducten van beton en kalkzandsteen - Veiligheid - Deel 8: Machines en uitrusting voor de vervaardiging van bouwproducten van beton en kalkzandsteen

This part of EN 12629, taken together with EN 12629-1:2000+A1:2010 applies to hydraulic machines for the manufacture of bricks, blocs and elements of calcium-silicate (as illustrated in Annexes A and B). EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate. This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. Noise hazard and vibration hazard are considered as not significant for those machines. This European Standard applies to the machines from the point at which the mixture enters the machine (see point 1 at annex A, B) until the point where the green products are removed from the machine to the curing system (see point 2 of annex A, B). This document is not applicable to machines and equipment for the manufacture of constructional products from calcium silicate (and concrete), which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12629-8:2003+A1:2010 en

€ 49.30

NEN-EN 12643:2014

Grondverzetmachines - Machines met rubberbanden - Eisen aan de bestuurbaarheid

NEN-EN 12643 specifies steering system tests and performance criteria for evaluating the steering capability of rubber-tyred self-propelled earth-moving machines having a machine speed, determined in accordance with ISO 6165:2006, greater than 20 km/h. It applies to tractors, loaders, backhoe loaders, excavators, dumper trucks, tractor-scrapers and graders equipped with either manual (unassisted) steering, power-assisted steering or fully powered steering as defined in EN ISO 6165:2006. This European Standard excludes rollers, compactors and pipelayers.

Type C 2006/42/EG Geverifieerd

NEN-EN 12643:2014 en

€ 49.30

NEN-EN 12649:2008+A1:2011

Betonverdichters en afstrijkmachines - Veiligheid

This document applies to concrete compactors and smoothing machines as defined in Clause 3 and illustrated in Annex A and Annex B. This standard also applies for hand-held motor-operated concrete vibrators as defined in EN 60745-2-12:2003, but with the additional safety requirements for electronically controlled systems as defined in this standard (see 5.2.1.2). This document does not deal with auxiliary equipment which provides the energy for internal and external vibrators, e.g. air compressors, hydraulic power sources and voltage transformers. This document does not apply to remote-controlled or portable smoothing machines and self-acting (robotic) smoothing machines. This document deals with all significant hazards, hazardous situations and events relevant to concrete compactors and smoothing machines, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This document specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard also includes measures to consider reasonably foreseeable misuse. This document is not applicable to machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12649:2008+A1:2011 en

€ 61.30

NEN-EN 13019:2001+A1:2009

Machines voor wegenreiniging - Veiligheidseisen

This European Standard applies to road surface cleaning machines, which are defined in clause 3. The equipment would normally be mounted on a carrier vehicle (e.g. truck, tractor, construction machinery and mobile industrial handling equipment). It is also possible to mount a road surface cleaning machine on its own chassis construction and propulsion system. In all cases the machine and chassis form an integral unit. Directives and standards for the vehicular truck chassis aspect, termed 'carrier vehicle' in this standard, would be those relative to that equipment, even where specific modifications have been made to realize the road surface cleaning application. The use in public road traffic is governed by the national regulations. This European Standard deals with all significant hazards identified through a risk assessment pertinent to road surface cleaning machines when they are used as intended and under the conditions foreseen by the manufacturer. This European Standard does not deal with significant hazards associated with "deletet text" EMC. This European Standard only specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated with machine operation, setting and adjustments, load discharge and routine maintenance. This European Standard does not include requirements for the carrier vehicles (e.g. truck) or special constructions. These are covered in directives related to the construction of vehicles. Demountable bodywork systems (e.g. demountable containers) are specified in other standards. This European Standard does not apply to road surface cleaning machines such as front mounted tractor brooms according to EN 13524:2003. This European Standard does not apply to machines or components that are specifically designed for cleaning tram-lines and rail tracks. This European Standard does not deal with the risks associated with the operation of machines in potentially explosive atmospheres. This European Standard applies to machines which are manufactured after the date of approval of the standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13019:2001+A1:2009 en

€ 61.30

NEN-EN 13020:2015**Machines voor de oppervlaktebehandeling van wegen - Veiligheidseisen**

NEN-EN 13020 applies to road surface treatment machines, which are in particular: - binder sprayers [or sprayers]; - chipping spreaders [or spreaders]; - machines for surface repairs (binder sprayer chipping spreader [or sprayer spreader]); - mastics asphalt mixers; - joint sealer; - micro-surfacing machines/slurry machines; - cold asphalt laying / micro-asphalt-paving machines (see also Clause 3). Road surface treatment machines can be mounted on a carrier vehicle, trailer or articulated truck, combining to form an integral unit. It is also possible to mount a road surface treatment machine on its own chassis construction and propulsion system (self-propelled or pedestrian-controlled). In all cases the machine and chassis form an integral unit. Directives and standards for the vehicular truck chassis aspects, termed 'carrier vehicle' in this document, would be those relative to that equipment, even where specific modifications have been made to realize the road surface treatment application. The use in public road traffic is governed by the national regulations. This European Standard deals with all significant hazards identified through a risk assessment relevant to road surface treatment machines when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This European Standard does not deal with significant hazards associated with pressurized tanks, and EMC. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated with machine operation, setting and adjustments, load discharge and routine maintenance. This European Standard does not include requirements for the carrier vehicles or special constructions. These are covered in directives related to the construction of vehicles. Demountable bodywork systems (e.g. demountable containers) are specified in other standards. Vibrations are not dealt with in the standard, because for all machines of this family vibration is not a relevant hazard due to the low working speed and special working conditions (e.g. flat surface). This European Standard does not deal with the risks associated with the operation of the machines in potentially explosive atmospheres. This European Standard does not include requirements of the 94/55/EC Directive related to transport of dangerous goods by road but contains additional specifications in link with these existing. This European Standard applies to machines which are manufactured after the date of approval of this standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13020:2015 en

€ 74.30

NEN-EN 13021:2003+A1:2009**Machines voor winterdienst - Veiligheidseisen**

This European Standard applies to winter service machines which are defined in clause 3. This European Standard deals with all significant hazards (see clause 4) identified through a risk assessment pertinent to winter service machines when they are used as intended and under the conditions foreseen by the manufacturer. This European Standard does not deal with significant hazards associated with deleted text EMC. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated only with machine operation, setting and adjustments, load discharge and routine maintenance. Winter service machines are normally mounted on carrier vehicles (e.g. trucks, tractors, construction machinery and mobile industrial handling equipment). This European Standard does not cover requirements for the carrier vehicles even where specific modifications have been made to realise the winter service application. These requirements will be handled in directives and standards for the construction of carrier vehicles. The use of winter service machines in public road traffic is governed by national regulations. This standard does not cover any requirements for demountable bodywork systems (e.g. demountable containers). These requirements are specified in other standards. This European Standard does not deal with: - machines or components which are solely designed for clearing rails such as rail sweepers or blowers; - walker-operated and hand-held winter service machines; - highway maintenance machines covered by EN 13524, such as front-mounted sweepers; - machines for the maintenance of sports grounds; - machines for agriculture, horticulture and forestry; - machines intended for use in potentially explosive atmospheres. This European Standard applies to winter service machines which are manufactured after the date of approval of the standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13021:2003+A1:2009 en

€ 61.30

NEN-EN 13035-1:2008**Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 1: Opslag, behandeling en transport binnen het bedrijf**

This standard contains the requirements for safety for the design and installation of equipment intended for the storage, handling and transportation of flat glass inside the factory as described in Clause 3. It applies to stationary, movable and mobile storage equipment (see 3.2), mechanical and pneumatic handling equipment (see 3.3) and transportation equipment (see 3.4) (see overview in Annex A). Additional requirements for dealing with specific hazards due to the use outside the factory are dealt with in prEN 13035-2. This standard only deals with the devices which are directly in contact with the glass. Tractors, cranes, hoists and fork lifts are out of the scope as well as parts of other powered vehicles that are not in contact with the glass (see 3.4.1). This standard does not apply to manual handling equipment as defined in 3.3.1. This standard deals with all significant hazards, hazardous situations and events relevant to equipment for the storage, handling and transportation of flat glass, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, the operation and maintenance. Noise has not been considered to be a significant hazard for any type of equipment in the scope of this standard. This document is not applicable to storage, handling or transportation equipment for flat glass inside the factory, which is manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13035-1:2008 en

€ 74.30

NEN-EN 13035-2:2008

Machines en installaties voor de fabricage, behandeling en verwerking van vlakglas - Veiligheidseisen - Deel 2: Opslag, behandeling en transport buiten de fabriek

This standard contains the requirements for safety for the design and installation of equipment intended for the storage (as defined in 3.2.1), handling (as defined in 3.2.2) and transportation (as defined in 3.2.3) of flat glass outside the factory (as defined in 3.1.1) and including stillages, pallets, frails fixed to vehicles, inloader vehicles, specific glass-securing devices, stanchions and vacuum-lifting devices which are used for road transport and on building sites. Specific hazards due to the use inside the factory are dealt with in EN 13035-1. This standard deals only with the devices which are directly in contact with the glass. This standard does not apply to manual handling equipment such as carrying straps and vacuum pads. Tractors, cranes, hoists and fork lifts are out of the scope as well as parts of other powered vehicles that are not in contact with the glass. This European Standard does not apply to equipment for the transport by other ways than on road e.g. by ship or train, and the transportation of glazed windows/frames. This standard deals with all significant hazards, hazardous situations and events relevant to equipment for the storage, handling and transportation of flat glass, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, the operation and maintenance. Noise has not been considered to be a significant hazard for any type of equipment in the scope of this standard. This document is not applicable to storage, handling or transportation equipment for flat glass outside the factory, which is manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13035-2:2008 en

€ 61.30

NEN-EN 13035-3:2003+A1:2009

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 3: Snijmachines

This standard contains the requirements for safety for the design and installation of machines with one movable bridge for cutting of flat glass, which operate by scoring of the glass placed on a horizontal support. This standard covers the transport of the glass on the machine. This European Standard deals with all significant hazards, hazardous situations and events relevant to flat glass cutting machines, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance. Hazards from noise are not considered to be significant

Type C 2006/42/EG Geverifieerd

NEN-EN 13035-3:2003+A1:2009 en

€ 61.30

NEN-EN 13035-3:2003+A1:2009/C1:2010

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 3: Snijmachines

Type C 2006/42/EG Geverifieerd

NEN-EN 13035-3:2003+A1:2009/C1:2010 en

€ 0.00

NEN-EN 13035-4:2003+A1:2010

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 4: Kanteltafels

This standard contains the requirements for safety for the design and installation of tilting tables, where the flat glass is brought from the horizontal almost to the vertical position or vice versa by lying on or - supported at the lower edge - leaning against a supporting surface. 1.2 ! This standard deals with all significant hazards, hazardous situations and events relevant to tilting tables for flat glass, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance. Noise is not a significant hazard for this type of machines." 1.3 This standard is not applicable to tilting tables where all movements are done by human power. 1.4 This standard is not applicable to additional equipment, e.g. for cutting (see !EN 13035-3"), loading and unloading (see !EN 13035-5"), break-out (see !EN 13035-6"), transporting (see EN 619) of flat glass as used as integral parts of the machinery. If there are specific risks that arise in connection with tilting tables, appropriate measures are specified. 1.5 This document is not applicable to tilting tables which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13035-4:2003+A1:2010 en

€ 49.30

NEN-EN 13035-5:2006+A1:2010

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 5:
Machines en installaties voor het op- en afstapelen

This European Standard applies for machines and installations for stacking and de-stacking that are specifically designed for building-up or taking down upright stacks of flat glass sheet by sheet including unloading and loading of single sheets of flat glass from or onto machines or transport devices (conveyors). NOTE For sketches with examples of typical constructions, see Annex A (informative), Figures A.1 to A.9. 1.2 ! This European Standard deals with the significant hazards, hazardous situations and events relevant to machines and installations for stacking and de-stacking flat glass when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4)." Those hazards which are dealt with in the ad-hoc standard EN 619 for conveyors are excepted. !This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance." 1.3 This European Standard is not applicable to the significant hazards of conveyors and other machines for the manufacture, treatment and processing of flat glass, e.g. tilting tables, equipment for storage of flat glass, such as stillages. If there are specific hazards which arise by the co-operation of this machinery and equipment with machines and installations for stacking and de-stacking, appropriate measures are specified. 1.4 This European Standard is not applicable to building up or taking down stacks by means of cranes that are temporarily equipped via hook with load-lifting attachments with suction cups to lift flat glass. 1.5 When compiling this European Standard, it was assumed that lifting movements are only used as part of full automatic machines and that the related hazards are not significant. 1.6 This European Standard is not applicable to machines and installations for stacking and de-stacking which are manufactured before the date of publication of this European Standard by CEN. 11.7 Noise is not a significant hazard for this type of machinery. The A-weighted emission sound pressure level at workstations does not exceed 70 dB(A)."

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 13035-5:2006+A1:2010 en

€ 61.30

NEN-EN 13035-6:2006+A1:2010

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 6:
Breekmachines

This European Standard applies for machines for break-out of flat glass including the following steps: transport and positioning, break-out, transport of the cut sizes to the unloading position, leading away of waste flat glass. 1.2 !This European Standard deals with the significant hazards, hazardous situations and events relevant to machines for the break-out of flat glass when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4)." Those hazards which are dealt with in EN 619 for conveyors are excepted. !This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance." Hazards from noise are not considered to be significant. 1.3 This European Standard is not applicable to the break-out operation (opening the cut) of cutting machines for laminated glass (see EN 13035-7). 1.4 This European Standard is not applicable to the treatment of waste flat glass such as crushing and/or charging of waste flat glass into bins, containers. 1.5 This European Standard does not apply to the significant hazards of conveyors. If there are specific hazards which arise by the co-operation of conveyors with machines for break-out of flat glass, appropriate measures are specified. 1.6 This European Standard is not applicable to machines for break-out of flat glass which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 13035-6:2006+A1:2010 en

€ 49.30

NEN-EN 13035-7:2006+A1:2009

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 7:
Snijmachines voor gelamineerd glas

This European Standard applies for cutting machines for laminated glass including the following steps: transport and positioning, synchronous cutting (scoring) from both sides, break-out, electrical heating and separation. This European Standard deals with the significant hazards, hazardous situations and events relevant to cutting machines for laminated glass when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Those hazards, which are dealt with in the ad-hoc standard EN 619 for conveyors are excepted. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance. Hazards from noise are not considered to be significant. This European Standard is not applicable to cutting (scoring) and break-out of monolithic glass (see EN 13035-3 and EN 13035-6). This European Standard is not applicable to the cutting of laminated glass by sawing or by the use of high-pressure liquid. This European Standard is not applicable to the significant hazards of conveyors and machines for the manufacture, treatment and processing of flat glass such as tilting tables. 1.6 This European Standard is not applicable to cutting machines for laminated glass which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 13035-7:2006+A1:2009 en

€ 49.30

NEN-EN 13035-9:2006+A1:2010

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 9:
Wasinstallaties

This European Standard contains the safety requirements for the design and installation of stationary glass washing installations as shown as typical in Annex A. Glass washing installations are designed to perform the following functions: feeding of flat glass to the cleaning and drying unit and transport (delivery) to the estimation equipment and to the take-off position of the flat glass sheet. None of the processing phases requires direct manual intervention. This European Standard deals with the significant hazards, hazardous situations and events with the exception of those by interfaces with other machines used in a process line relevant to glass washing installations, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks which can arise from these significant hazards during commissioning, the operation and maintenance. Safety requirements and/or protective measures are given in Clause 5. When references are made to B level standards such as EN 953, EN 1037, EN 1088, EN 60204-1, EN ISO 13850 and EN ISO 13857, the manufacturer should carry out an adequate risk assessment for the requirements thereof where choice is necessary.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 13035-9:2006+A1:2010 en

€ 49.30

NEN-EN 13035-11:2006+A1:2010

Machines en fabrieken voor de productie, behandeling en bewerking van vlakglas - Veiligheidseisen - Deel 11: Boormachines

This European Standard contains the requirements for stationary machines for the drilling of flat glass, using a powered rotating tool. Stationary machines are classified into: a) manual; b) semi-automatic; c) automatic single-head or multi-head; d) fully automatic. This European Standard deals with the significant hazards, hazardous situations and events relevant to drilling machines for flat glass when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4)." This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, the operation and maintenance. !Safety requirements and/or protective measures are given in Clause 5. When references are made to B level standards such as EN 953, EN 983, EN 999, EN 1037, EN 1088, EN 60204-1, EN ISO 13850 and EN ISO 13857, the manufacturer should carry out an adequate risk assessment for the requirements thereof where choice is necessary.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13035-11:2006+A1:2010 en

€ 49.30

NEN-EN 13042-1:2007+A1:2009

Machines en fabrieken voor de productie, behandeling en bewerking van hol glas - Veiligheidseisen - Deel 1: Druppelverdeler

This European Standard applies to the design and installation of gob feeders which provide hollow glass forming machines with gobs. ! This European Standard deals with the significant hazards, hazardous situations and events relevant to gob feeders, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Noise is not a significant hazard for this type of machine. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance." This European Standard does not deal with bowl firing. This European Standard is not applicable to gob feeders which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13042-1:2007+A1:2009 en

€ 49.30

NEN-EN 13042-2:2004+A1:2009

Machines en fabrieken voor de productie, behandeling en bewerking van hol glas - Veiligheidseisen - Deel 2: Behandelingsmachine voor de aanvoer

This document contains the requirements for safety for the design and installation of stationary handling machines for feeding from the taking up of a post of melted glass out of the working bowl of a glass melting furnace through transport to delivery to a glass blower or to a forming machine for hollow glass. !This European Standard deals with all significant hazards, hazardous situations and events relevant to handling machines for feeding, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from significant hazards during commissioning, operation and maintenance." This European Standard does not deal with the exclusive feeding with shears alone, with the transport of the melted glass post by its own weight in free fall or by trueing (gob feeder, see EN 13042-1)." This document is not applicable to handling machines for feeding which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13042-2:2004+A1:2009 en

€ 49.30

NEN-EN 13042-3:2007+A1:2009

Machines en fabrieken voor de productie, behandeling en bewerking van hol glas - Veiligheidseisen - Deel 3: IS Machines

This European Standard applies to the design and installation of IS machines including the gob distributor and machine conveyor. This European Standard deals with the significant hazards, hazardous situations and events relevant to IS machines, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from significant hazards during commissioning, operation and maintenance." This European Standard does not deal with gob feeders (see EN 13042-1) and handling machines for feeding (see EN 13042-2) which are self-standing machines used for the delivery of portions of melted glass to hollowglass- forming machines such as glass presses (see EN 13042-5). This European Standard is not applicable to IS machines which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13042-3:2007+A1:2009 en

€ 49.30

NEN-EN 13042-5:2003+A1:2009

Machines en fabrieken voor de productie, behandeling en bewerking van hol glas - Veiligheidseisen - Deel 5: Persen

This standard contains the requirements for the design and installation of glass presses including equipment for feeding of molten glass to the mould, loading equipment and equipment for discharging articles (take-out) when these are integral parts of the presses. This standard deals with all significant hazards, hazardous situations and events relevant to glass presses when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance." This standard does not deal with forming machines for hollow glass where the press operation is only a part of the hot-forming process, such as the press/blow process of IS machines (see !EN 13042-3"). This standard does not deal with gob feeders (see !EN 13042-1") and handling machines for feeding (see !EN 13042-2") which are self-standing machines and dealt with in other standards of the series regarding machinery used in the production of hollow glass. This document is not applicable to presses which are manufactured before the date of publication of this document by CEN. This standard deals only with hazards arising from the application of components which may be used in glass presses, such as motors and continuous handling equipment. More particular safety requirements are dealt with within standards more specific to that component, including noise.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13042-5:2003+A1:2009 en

€ 49.30

NEN-EN 13102:2006+A1:2008

Machines voor de keramiek - Veiligheid - Laden en lossen van fijnkeramische tegels

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13102:2006+A1:2008 en

€ 49.30

NEN-EN 13367:2005+A1:2008

Machines voor keramiek - Veiligheid - Overlaadperrons en -wagens

This European Standard applies for the design, installation and commissioning of transfer platforms and cars and ancillary devices for the process related transport of ceramic material on rails. The rails, which are considered to be horizontal and the movement of vehicles in equipment and machinery connected with the process related transport such as kilns, dryers, collector scaffolds, machinery for loading and unloading are also covered. This European Standard deals with all significant hazards, hazardous situations and events relevant to transfer platforms and cars, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). Noise is not a significant hazard. This document deals with the preventive measures to minimise these hazards which can arise during commissioning, the operation and maintenance. This European Standard is not applicable to: Kilns and dryers (see EN 746-1:1997), machinery for setting and dehacking of heavy clay and refractory, products and machinery for loading and unloading of fine clay tiles; Retrieval, packaging and storage of finished products; Transport of cars with not rail mounted equipment e.g. with driverless trucks (see EN 1525:1997); Transfer platforms and cars which are driven by human power.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13367:2005+A1:2008 en

€ 61.30

NEN-EN 13367:2005+A1:2008/C1:2009

Machines voor keramiek - Veiligheid - Overlaadperrons en -wagens

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13367:2005+A1:2008/C1:2009 en

€ 0.00

NEN-EN 13524:2003+A2:2014

Onderhoudsmachines voor wegen - Veiligheidseisen

NEN-EN 13524+A2 applies to machines used for highway maintenance which are attached to or mounted on carrier vehicles and which are defined in clause 3. Directives and standards for the vehicular truck chassis aspect, termed 'carrier vehicle' in this standard, would be those relevant to that equipment, even where specific modifications have been made to adapt the machines for highway maintenance application. The use in public road traffic is governed by the national regulations. This European Standard deals with all significant hazards identified through a risk assessment pertinent to highway maintenance machines, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This European Standard does not deal with significant hazards associated with deleted text EMC. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated with machine operation, setting and adjustments, load discharge and routine maintenance. This European Standard does not include requirements for the carrier vehicles (e.g. trucks, tractors, construction machines, industrial trucks) as well as their demountable bodywork. These are covered in directives related to the construction of vehicles. Demountable bodywork systems are specified in other standards. This European Standard does not deal with: - walker-operated and hand-held machines; - machines for the maintenance of sports grounds; - machines for agriculture, horticulture and forestry; - winter-service machines; - street-cleansing machines, except sweepers #deleted text; - earth-moving machinery; - pit and sewer cleaning vehicles/-machines; - lifting platforms; - refuse-collecting vehicles; - bridge-inspection equipment; - loading cranes; A machine which is a combination of several parts with different uses should conform to all the standards referring to the corresponding parts of the machine. This European Standard does not deal with the risks associated with the operation of machines in potentially explosive atmospheres. This standard applies to machines manufactured after the date of approval of this standard through CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13524:2003+A2:2014 en

€ 86.00

NEN-EN 13531:2001+A1:2008

Grondverzetmachines - Beschermende constructie bij kantelen (TOPS) van kleine graafmachines - Laboratoriumbeproevingen en prestatie-eisen

This European Standard establishes a consistent and reproducible means of evaluating the load-carrying characteristics of tip-over protective structures (TOPS) under static loading, and prescribes performance requirements of a representative specimen under such loading. It applies to TOPS of compact excavators (as defined in EN ISO 6165) with swing type boom, having an operating mass (see 3.14) of 1 000 kg to 6 000 kg.

Type C 2006/42/EG Geverifieerd

NEN-EN 13531:2001+A1:2008 en

€ 49.30

NEN-EN 13862:2004+A1:2009

Sleuvenzaagmachine voor vloeren - Veiligheid

This European Standard applies to pedestrian controlled floor sawing machines having power feed, manual feed or hand feed (see 3.2) for sawing, grooving and milling floor surfaces made of concrete, asphalt and similar mineral building materials where the main power is supplied by electric or internal combustion prime engine. The power transmission of floor sawing machines is mechanical or hydraulic. This European Standard deals with all significant hazards pertinent to floor sawing machines, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. These machines are designed for use with rotating cutting-off wheels for wet and dry cutting. These cutting-off wheels can be either a diamond cutting-off wheel or a boron nitride cutting-off wheel.

Type C 2006/42/EG Geverifieerd

NEN-EN 13862:2004+A1:2009 en

€ 74.30

NEN-EN 15027:2007+A1:2009

Verplaatsbare zaagwand en kabelzaaguitrusting voor werkplaats - Veiligheid

The global description "wall saw and wire saw equipment" contains two differing types of machines for use in the construction industry, and both used to make cuts on walls, ceilings and floors composed of mineral construction materials and/or composite materials. The many different cutting tasks and choice of operating method determine the type of machine to be used for each application. The machines may therefore be split into the following two principal classifications: - Wall saws – exclusively rail guided – transportable. - Wire saws – transportable. The machines are intended for the use of diamond tools. The types of cutting tools used in conjunction with the machines as described above fall within the design and use parameters supplied by the manufacturer. Cutting debris generated by the cutting action is removed from the cutting joint by a medium such as water directed to the cutting tool. Machines covered by this standard may be powered by: electric motor, IC engine, electro-hydraulic drive and IC engine-hydraulic drive. This European Standard deals with all significant hazards, hazardous situations and events relevant to wall saws and wire saws machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards generated by the cutting process work cycle. For special applications, for example, when working in potentially explosive atmospheres, additional safety requirements is necessary which are not covered by this standard. This European Standard does not apply for wire saws intended for quarrying and stationary machining of natural stone as covered by EN 15163. This European Standard applies primarily to machines which are manufactured after the date of approval by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 15027:2007+A1:2009 en

€ 61.30

NEN-EN 15059:2009+A1:2015

Sneeuwruimers - Veiligheidseisen

NEN-EN 15059+A1 applies to snow grooming equipment as defined in 3.1 and its use with attachments as described in 3.2. With the exception of rear-mounted snow tillers and front blade attachments, this standard does not deal with the specific hazards of the attachments themselves. This standard is not applicable to snowmobiles. This standard deals with all significant hazards, hazardous situations and events relevant to snow grooming equipment, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It also deals with hazards during commissioning, use, fault-finding and maintenance. This standard is not applicable to snow grooming equipment manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 15059:2009+A1:2015 en

€ 61.30

NEN-EN 15162:2008

Machines en installaties voor het winnen en bewerken van natuursteen - Veiligheidseisen voor gereedschapszagen

This standard applies to monoblade or multiblade gang saws, as defined in 3.1, for cutting marble, granite, other types of natural stone, artificial or natural conglomerates and similar materials. This standard does not deal with noise as a significant hazard. This standard deals with all significant hazards, hazardous situations and events relevant to gang saw machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards during transport, commissioning, use and maintenance.

Type C 2006/42/EG Geverifieerd

NEN-EN 15162:2008 en

€ 61.30

NEN-EN 15163:2008

Machines en installaties voor het gebruik en bewerken van natuursteen - Veiligheid - Eisen voor diamant draadzagen

This European Standard applies to diamond wire saws being used in quarries as well as in processing plants for cutting marble, granite and other stones out of a mass of rocks in a quarry or of blocks having been already extracted. The machines can be either stationary or travelling on rails during operation. Diamond wire saws in the scope have an electric main motor. This standard deals with machines working in one main axis as well as in several axes. Furthermore, this standard does not deal with problems caused by an irregular structure of the stones to be cut. Diamond wire saws are intended to be used with diamond cutting wires also referred to as tools in this standard. For transportable machines, this standard deals only with machines using coated wire tools. This standard deals with all significant hazards, hazardous situations and events relevant to diamond wire saws, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards during transport, commissioning, use and maintenance.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15163:2008 en

€ 61.30

NEN-EN 15163:2017

Machines en installaties voor het gebruik en bewerken van natuursteen - Veiligheid - Eisen voor diamant draadzagen en diamant multi draadzagen

This European Standard applies to diamond wire saws being used in quarries or in sawmill for cutting natural stones (e.g. marble, granite). Diamond wire saws can have one or more wires (diamond multi-wire saws). The multi-wire saws work in sawmill on blocks having been already extracted. The diamond wire saws can be either stationary or travelling on rails during operation. Diamond wire saws in the scope have an electric main motor. This standard deals with machines working in one main axis as well as in several axes. Diamond wire saws are intended to be used with diamond cutting wires also referred to as tools in this standard. This standard deals only with machines using coated wire tools. This standard deals with all significant hazards, hazardous situations and events relevant to diamond wire saws, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This European Standard deals with the foreseeable lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and scrapping. This European Standard does not deal with: - operation under extreme ambient conditions (outside the limits defined in EN 60204-1); - upstream and downstream conveying elements for transporting the work-pieces. This document is not applicable to machines which are manufactured before the date of its publication as EN.

Type C

NEN-EN 15163:2014 Ontw. en

€ 35.70

NEN-EN 15164:2008

Machines en installaties voor het winnen en bewerken van natuursteen - Veiligheid - Eisen voor ketting- en riemzagen

This standard applies to chain- or belt-slotting machines to be used in open or underground quarries. Chain or belt-slotting machines are used for cutting marble, granite and other stones loose or at the face. They can be stationary or can be moved on rails during work. This standard deals with slotting machines with electric main motor and equipped with one main sawing head. This European Standard covers only machines for plain cutting (with one axis) and does not cover the difficulties arising from the geomorphology of the stone to be cut. This standard does not deal with noise as a significant hazard. This standard deals with all significant hazards, hazardous situations and events relevant to chain- and beltslotting machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards during transport, commissioning, use and maintenance.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15164:2008 en

€ 49.30

NEN-EN 15571:2014

Machines en installaties voor de winning en bewerking van natuursteen - Veiligheid - Oppervlakte-eisen voor afwerkmachines

NEN-EN 15571 applies to stationary surface finishing machines, with stationary work piece (see 3.1) or with moving work piece (see 3.2), which are used to grind or polish horizontal surfaces of slabs, strips or tiles of natural stone and engineered stone (e.g. agglomerated stone) as defined by EN 14618:2009. This European Standard deals with all significant hazards, hazardous situations and events relevant to surface finishing machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This European Standard deals with the foreseeable lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and scrapping. This European Standard does not deal with: - hand-held grinding machines; - machines intended for operation in a potentially explosive atmosphere; - operation in severe environmental conditions (e.g. extreme temperatures, corrosive environment); - machines intended for outdoor operation. This European Standard is not applicable to machinery which is manufactured before the date of publication of this document by CEN.

Type C

NEN-EN 15571:2014 en

€ 74.30

NEN-EN 15572:2015

Machines en installaties voor het winnen en bewerken van natuursteen - Veiligheid - Eisen voor randafwerkingsmachines

NEN-EN 15572 applies to table edge finishing machines (see 3.1) and belt edge finishing machines (see 3.2) which are used to grind, polish, cut and shape the edge or surface of slabs, strips or tiles of natural stone and engineered stone (e.g. agglomerated stone) as defined by EN 14618:2009. This European Standard deals with all significant hazards, hazardous situations and events relevant to edge finishing machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This European Standard deals all significant hazards that may occur within the expected lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and scrapping. This European Standard also applies to machines fitted with the following facilities/devices: - automatic tool change; - tilting and/or rotating head axis; - rotating workpiece support(s); - axes operating according a NC work programme; - mechanical, pneumatic, hydraulic or vacuum workpiece clamping; and the following accessory units: - spindle with grinding and polishing tool; - spindle with bush-hammering tool; - spindle with diamond wheel; - spindle with calibrating tool; - spindle with dripstone tool; - spindle with cutting tool; - spindle with shaping tool.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15572:2015 en

€ 86.00

NEN-EN 16191:2014

Tunnelbouwmachines - Veiligheidseisen

NEN-EN 16191 is applicable to tunnelling machinery as defined in Clause 3 used for the construction of tunnels, shafts and other underground excavations. It deals with all significant hazards, hazardous situations and events relevant to such machinery when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard covers monitoring for hazardous atmospheres within the confines of the tunnelling machinery. Hand-arm and whole-body vibration are not considered as significant hazard for tunnelling machinery. The following items and applications are not covered by this European Standard: - the additional requirements for the use of tunnelling machinery under hyperbaric conditions; - the additional requirements for use of tunnelling machinery in potentially explosive atmospheres.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16191:2014 en

€ 86.00

NEN-EN 16228-1:2014

Boor- en funderingsmachines - Veiligheid - Deel 1: Gemeenschappelijke eisen

NEN-EN 16228-1 specifies the common safety requirements for drilling and foundation equipment. Part 1 of this European Standard deals with the significant hazards common to drilling and foundation equipment (see Annex A), when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (transport, assembly, dismantling, equipment in service and out of service, maintenance, moving on site, storage, disabling and scrapping).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-1:2014 en

€ 122.00

NEN-EN 16228-2:2014

Boor- en funderingsmachines - Veiligheid - Deel 2: Mobiele boorwerktuigen voor civiel en geotechnisch onderzoek, delfstoffen en mijnbouw

NEN-EN 16228-2, together with part 1, deals with all significant hazards for mobile drill rigs for civil and geotechnical engineering, quarrying and mining when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). In this document the general term "mobile drill rig" covers several different types of machines for use in: - civil engineering; - geotechnical engineering (including ground investigation, anchoring, soil nailing, mini-piling, ground stabilization, grouting); - water well drilling; - geothermal installations; - landfill drilling; - underpinning, tunnelling, mining and quarrying; - for use above ground as well as underground.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-2:2014 en

€ 61.30

NEN-EN 16228-3:2014

Boor- en funderingsmachines - Veiligheid - Deel 3: Horizontaal gestuurde boormachines

NEN-EN 16228-3, together with part 1, deals with all significant hazards for horizontal directional drilling equipment (HDD) when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 16228-1:2014.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-3:2014 en

€ 61.30

NEN-EN 16228-4:2014**Boor- en funderingsmachines - Veiligheid - Deel 4: Funderingsmachines**

NEN-EN 16228-4, together with part 1, deals with all significant hazards for foundation equipment when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 16228-1:2014 This document does not repeat the requirements from EN 16228-1:2014 but adds or replaces the requirements for application for foundation equipment. In this document the general term "foundation equipment" covers several different types of machines used for installation and/or extracting by drilling (machines with a rotary torque greater than 35 kNm), driving, vibrating, pushing, pulling or a combination of techniques, or any other way, of: - longitudinal foundation elements; - soil improvement by vibrating and soil mixing techniques; - vertical drainage.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-4:2014 en

€ 49.30

NEN-EN 16228-5:2014**Boor- en funderingsmachines - Veiligheid - Deel 5: Machines voor het maken van diepwanden**

NEN-EN 16228-5, together with part 1, deals with all significant hazards for diaphragm walling equipment when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 16228-1:2014.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-5:2014 en

€ 49.30

NEN-EN 16228-6:2014**Boor- en funderingsmachines - Veiligheid - Deel 6: Machines voor sproeien, sputten en injecteren van beton**

NEN-EN 16228-6, together with part 1, deals with all significant hazards for jetting, grouting and injection equipment when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 16228-1:2014 This document does not repeat the requirements from EN 16228-1:2014, but adds or replaces the requirements for application for jetting, grouting and injection equipment. Rigs for drilling, vibrating, pile driving, to be used for preparing holes for these applications are covered by EN 16228-2:2014 and/or EN 16228-4:2014.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-7:2014**Boor- en funderingsmachines - Veiligheid - Deel 7: Uitwisselbare uitrustingssstukken**

NEN-EN 16228-7, together with part 1, deals with all significant hazards for interchangeable auxiliary equipment when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in EN 16228-1:2014. This document does not repeat the requirements from EN 16228-1, but adds or replaces the requirements for application for interchangeable auxiliary equipment. This document specifies the specific safety requirements for interchangeable auxiliary equipment to be used in drilling and foundation operations, connected with drilling and foundation equipment, agricultural equipment and/or earth moving machinery when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer. Interchangeable auxiliary equipment includes pile installation and extraction equipment, impact hammers, extractors, vibrators, deep vibrators, static pile pushing/pulling devices, rotary percussion hammers, rotary drilling drives, drill mast equipment such as leaders equipped with a drill stem and gears attached to the boom of an excavator and casing oscillators/rotators. Diaphragm wall cutting tools are dealt with in EN 16228-5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16228-7:2014 en

€ 49.30

NEN-EN 16564:2014**Machines en installaties voor de winning en bewerking van natuursteen - Veiligheid - Eisen voor brugtype zaag- en freesmachines, inclusief NC/CNC (numerieke controle) versies**

NEN-EN 16564 deals with all significant hazards, hazardous situations and events, as listed in Clause 4, which are relevant to bridge type machines: sawing, sawing and milling, milling, included numerical control (NC/CNC) versions, designed to saw and mill natural stone and engineered/agglomerated stone as defined by EN 14618:2009, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This European Standard deals with the foreseeable lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and scrapping. This European Standard also applies to machines fitted with the following facilities/devices: - mechanical, pneumatic, hydraulic or vacuum workpiece clamping; - automatic tool change; - loading and unloading conveyor system; - tilting and/or rotating head axis; - rotating workpiece support(s); - tilting workpiece support(s) when loading; - lathe unit; - undercut grooving unit; - axes operating in accordance with an NC work programme. This European Standard does not apply to: - machines intended for operation in a potentially explosive atmosphere; - machines operating in severe environmental conditions (e.g. extreme temperatures, corrosive environment); - machines intended for outdoor operation; - machines which are manufactured before the date of its publication as EN.

Type C

NEN-EN 16564:2014 en

€ 86.00

NEN-EN 17106-2:2017 Ontw.**Wegbewerkingsmachines - Veiligheid - Deel 2: Vereisten voor wegdekreinigingsmachines**

This European Standard, together with part 1, deals with all significant hazards for road surface cleaning machines when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in prEN 17106-1:2017. This European Standard does not repeat the requirements from prEN 17106-1:2017, but adds or replaces the requirements for application for road surface cleaning machines.

Type C

NEN-EN 17106-2:2017 Ontw. en

€ 23.50

NEN-EN 17106-4-1:2017 Ontw.**Wegbewerkingsmachines - Veiligheid - Deel 4-1: Machines voor wegonderhoudswerkzaamheden - Vereisten voor grassnijapparatuur**

This European Standard applies to machines used for road service area maintenance which are attached to or mounted on carrier vehicles (e.g. tractor, truck), or which are self-propelled machinery and which are defined in Clause 3. Directives and standards for the vehicular truck or tractor chassis aspect, termed 'carrier vehicle' in this standard, would be those relevant to that equipment. For machinery which are a combination of a grass/brush-cutting attachment and a carrier-vehicle, this part of the standard applies to the grass or brush cutting attachment itself and with all health and safety requirements of the interaction and effects between attachment and the carrier vehicle when used together (e.g. stability, visibility). For self-propelled machinery, this part only deals with health and safety requirements of the attachment itself and does not deal with the self-propelled machinery itself which are dealt with in EN 17106-1. This European Standard deals with all significant hazards identified through a risk assessment pertinent to road service area maintenance machines, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This European Standard does not deal with significant hazards associated with EMC. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated with machine operation, setting and adjustments, load discharge and routine maintenance. This European Standard does not include requirements for the carrier vehicles (e.g. trucks, tractors, construction machines, industrial trucks). These are covered in directives related to the construction of vehicles. This European Standard does not deal with: - walker-operated and hand-held machines; - machines for the maintenance of sports grounds; - machines for agriculture, horticulture and forestry; - pit and sewer cleaning vehicles/-machines; - grass and brush cutting machines with multiple cutting heads (see Annex A, Clause C.2, Figure C.20) - vertical axis grass and brush cutting machines except inter-post machinery (see Annex A, Clause C.2, Figure C.22) - horizontal axis grass and brush cutting machines with two rotors (see Annex A, Clause C.2, Figure C.23) - self-propelled remote controlled machinery for road service area maintenance, except the mowing head - self-propelled remote controlled machinery used for forestry application (see Annex A, Clause C.2, Figure C.21) - cleansing and ditch maintenance machines (see Annex A, Clause C.2, Figure C.24 and C.25). A machine which is a combination of several parts with different uses should conform to all the standards referring to the corresponding parts of the machine. This document, together with part 1, deals with all significant hazards for road service area maintenance machines - grass and brush cutting machines when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4). The requirements of this part are complementary to the common requirements formulated in prEN 17106-1:2017. This document does not repeat the requirements from prEN 17106-1:2017, but adds or replaces the requirements for application for grass and brush cutting machines. This European Standard does not deal with the risks associated with the operation of machines in potentially explosive atmospheres. This standard applies to machines manufactured after the date of approval of this standard through CEN.

Type C

NEN-EN 17106-4-1:2017 Ontw. en

€ 41.00

NEN-EN-ISO 19432:2012**Machines en apparatuur voor de bouw - Draagbare, met de hand geleide afkortslijpmachine aangedreven door een zuigermotor met inwendige verbranding - Veiligheidseisen**

This International Standard specifies safety requirements and their verification for the design and construction of portable, hand-held, internal combustion engine driven, cut-off machines, intended to be used by a single operator in the cutting of construction materials, such as asphalt, concrete, stone and metal. It is applicable to those machines designed purposely for use with a rotating, bonded-abrasive and/or super-abrasive (diamond) cut-off wheel having a maximum outer diameter of 406 mm, centre-mounted on, and driven by, a spindle shaft, where the top of the wheel rotates away from the operator (see Figure 1). It deals with all hazards, hazardous situations and events significant to these machines when they are used as intended and under condition of reasonable foreseeable misuse.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 19432:2012 en

€ 143.10

Brandweer- en reddingsmaterieel**NEN-EN 1028-1:2002+A1:2008****Brandweerpompen - Deel 1: Centrifugaalpompen met aanzuiginrichting - Deel 1: Classificatie - Algemene en veiligheidseisen**

This standard applies for centrifugal pumps with priming devices for fire-fighting use supplied separately without driver and couplings. Fire-fighting centrifugal pumps with primer are defined as terminated by their inlet and outlet connections as well as by their shaft ends. This standard applies for fire-fighting centrifugal pumps with priming devices for use under ambient temperatures between -15 °C and 40 °C. This standard specifies the classification and general requirements for fire-fighting centrifugal pumps with priming devices with a nominal delivery rate of up to 6000 l/min. This standard deals with significant hazards listed in clause 4, hazardous situations and events during the commissioning, operation and maintenance of fire-fighting centrifugal pumps with priming devices, used as intended and under the conditions foreseen by the manufacturer or the manufacturer's authorized representative. In addition, fire-fighting centrifugal pumps with priming devices shall conform as appropriate to EN 292 for hazards not covered by this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1028-1:2002+A1:2008 en

€ 61.30

NEN-EN 1028-2:2002+A1:2008

Brandweerpompen - Centrifugaalpompen met ontluftingsinrichting - Deel 2: Verificatie van algemene en veiligheidseisen

This European Standard covers verification of the general and safety requirements of fire-fighting centrifugal pumps with primer as specified in clauses 7 and 8 of EN 1028-1:2002+A1:2008.

Type C 2006/42/EG Geverifieerd

NEN-EN 1028-2:2002+A1:2008 en

€ 61.30

NEN-EN 1777:2010

Hydraulische hoogwerkers (HP's) voor de brandweer en reddingsvoertuigen - Veiligheidseisen en beproeving

This European Standard applies to vehicle mounted Hydraulic Platforms (HP's) as defined in 3.1, intended for use by fire and rescue services. HP's may participate in fire fighting, rescue or protection of persons, protection of the environment and in a variety of other technical operations. This document identifies the significant hazards (see Clause 4) for all sizes of HP's used by fire and rescue services, on the basis that they are supplied in a complete form, tested and ready for use. It also gives methods for the elimination or reduction of these hazards. This document applies only to HP's classified in group B - type 1 according to EN 280:2001, 1.4. This document is intended to be used in conjunction with EN 1846-2 and EN 1846-3. This document deals with the technical safety requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, the operational use, the routine checking and maintenance of hydraulic platforms when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This document deals with all significant hazards, hazardous situations and events relevant to HP's, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer and taking account of their whole lifecycle (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 1777:2010 en

€ 98.50

NEN-EN 1846-2:2009+A1:2013

Brandweer- en hulpverleningsvoertuigen - Deel 2: Algemene eisen - Veiligheid en prestatie

NEN-EN 1846-2 omschrijft de gebruikelijke eisen voor de veiligheid, en de (minimale) gebruikelijke prestatie-eisen voor brandweer- en hulpverleningsvoertuigen zoals aangeduid in NEN-EN 1846-1.

Type C 2006/42/EG Geverifieerd

NEN-EN 1846-2:2009+A1:2013 nl

€ 107.50

NEN-EN 1846-2:2009+A1:2013 en

€ 86.00

NEN-EN 1846-3:2013

Brandweer- en hulpverleningsvoertuigen - Deel 3: Permanent geïnstalleerd materieel - Veiligheid en prestatie

NEN-EN 1846-3 specificeert de minimumeisen voor veiligheid en prestaties van bepaald optioneel specifiek permanent geïnstalleerd materieel op brandweer- en hulpverleningsvoertuigen dat wordt bediend door geschoold personeel, zoals aangeduid in EN 1846-1 en gespecificeerd in EN 1846-2.

Type C 2006/42/EG Geverifieerd

NEN-EN 1846-3:2013 nl

€ 107.50

NEN-EN 1846-3:2013 en

€ 74.30

NEN-EN 13204:2016

Dubbelwerkende hydraulische reddingsapparatuur voor de brandweer en de hulpverlening - Eisen voor veiligheid en prestatie

NEN-EN 13204 specifies safety and performance requirements for double acting hydraulic rescue tools manufactured after the date of publication. It is applicable to double acting hydraulic rescue tool systems which are intended for use by the firefighting and rescue services, principally for cutting through, spreading or pushing apart the structural parts of road vehicles, ships, trains, aircraft and building structures involved in accidents. They consist of a separate power pack, the tool[s] and the necessary interconnections and intended accessories, as defined in Clause 3 - Terms and definitions. This document deals with all significant hazards, hazardous situations or hazardous events relevant to the machinery, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C 2006/42/EG Geverifieerd

NEN-EN 13204:2016 en

€ 86.00

NEN-EN 13731:2007

Hefzaksystemen voor brandweer en reddingsdiensten - Veiligheids- en prestatie-eisen

This European Standard specifies requirements for lifting bag systems, where intended operation is inflation by compressed air and used primarily by fire and rescue services. This European Standard applies to lifting bag systems including some or all of the following components: hose assemblies and couplings; regulators; control devices; pressure indicators; safety valves; lifting bags. This European Standard applies to lifting bag systems intended for operation under ambient temperatures between -20 °C and 55 °C. This European Standard deals with all significant hazards, hazardous situations and events during the commissioning, operation and maintenance arising from a lifting bag system when it is used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies minimum performance requirements and test methods for lifting bag systems. This European Standard does not establish the additional requirements for: a) operation in severe conditions (e.g. extreme environmental conditions such as: temperatures outside the range from -20 °C to + 55 °C, corrosive environment, tropical environment, contaminating environments, strong magnetic fields, potentially explosive atmospheres)

Type C 2006/42/EG Geverifieerd

NEN-EN 13731:2007 en

€ 61.30

NEN-EN 14043:2014

Redvoertuigen voor brandweer en reddingsdiensten - Autoladders met gecombineerde bewegingen - Veiligheids- en prestatie-eisen en beproefingsmethoden

EN 14043 specifies the safety and performance requirements and test methods applicable to turntable ladders with combined movements of classes 18, 24, 30 and > 30 to 56, as defined in 3.13, under the control of fire-fighters and intended for fire fighting and rescuing people. Turntable ladder vehicles comprise a chassis, bodywork and a powered extending structure unit in the form of a ladder with or without a rescue cage. Turntable ladder vehicles covered by this European Standard have a self-propelled chassis, the motor of which supplies the power necessary for the operation of the ladder and permits all of the operational movements to be made simultaneously, with no restriction on the angle of the slewing movement. This European Standard deals with the technical safety requirements to minimize the hazards listed in Clause 4 which can arise during commissioning, operational use, routine checking and maintenance of turntable ladders when carried out in accordance with the specifications given by the manufacturer or the manufacturer's authorized representative. This European Standard deals with the use of turntable ladder vehicles within an ambient temperature range from -15 °C to +35 °C and with a wind velocity on the ladder set = 12,5 m/s. Additional measures can be necessary for use outside this range. Special designs for use under special climatic conditions should be agreed between the manufacturer and the purchaser. Any additional requirements are outside the scope of the standard. This European Standard does not deal with the design of a standard automotive chassis with regard to hazards resulting from or due to use as a road vehicle. This European Standard is not applicable to turntable ladder vehicles with combined movements which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14043:2014 en

€ 98.50

NEN-EN 14044:2014

Redvoertuigen voor brandweer en reddingsdiensten - Autoladders met sequentiële bewegingen - Veiligheids- en prestatie-eisen en beproefingsmethoden

NEN-EN 14044 specifies the safety and performance requirements and test methods applicable to turntable ladders with sequential movements of classes 18, 24, 30 and > 30 to 56, as defined in 3.13, under the control of fire-fighters and intended for fire fighting and rescuing people. Turntable ladder vehicles comprise a chassis, bodywork and a powered extending structure unit in the form of a ladder with or without a rescue cage. Turntable ladder vehicles covered by this European Standard have a self-propelled chassis, the motor of which supplies the power necessary for the operation of the ladder. They do not permit operational movements to be made simultaneously. This European Standard deals with the technical safety requirements to minimize the hazards listed in Clause 4 which can arise during commissioning, operational use, routine checking and maintenance of turntable ladders when carried out in accordance with the specifications given by the manufacturer or the manufacturer's authorized representative. This European Standard deals with the use of turntable ladder vehicles within an ambient temperature range from -15 °C to +35 °C and with a wind velocity on the ladder set = 12,5 m/s. Additional measures can be necessary for use outside this range. Special designs for use under special climatic conditions should be agreed between the manufacturer and the purchaser. Any additional requirements are outside the scope of the standard. This European Standard does not deal with the design of a standard automotive chassis with regard to hazards resulting from or due to use as a road vehicle. This European Standard is not applicable to turntable ladder vehicles with sequential movements which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14044:2014 en

€ 98.50

NEN-EN 14466:2005+A1:2008

Brandweerpompen - Draagbare pompen - Veiligheid en prestatie-eisen, beproevingen

This document applies to portable pumps using fire-fighting centrifugal pumps as defined in EN 1028, driven by an internal combustion engine and not intended to be permanently installed in fire-fighting and rescue service vehicles and not intended for prolonged unattended operation. This document deals with all significant hazards, hazardous situations and events relevant to portable firefighting pumps as described above, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). It addresses the design, setting up, and operation of the portable pump. This document also specifies performance requirements for portable pumps in its scope. This document applies to portable pumps used in ambient temperatures between -15 °C and + 35 °C. While producing this document it was assumed that:- only trained persons operate and maintain the machine; - components are kept in good repair and working order, so that the required characteristics are maintained. The noise test code considered in this document (see Annex E) will allow experience in the measurement of noise emission to be gained with a view to future revisions.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14466:2005+A1:2008 en

€ 74.30

NEN-EN 14710-1:2005+A2:2009

Brandweerpompen - Centrifugaalpompen zonder ontluuchtingsinrichting - Deel 1: Classificatie, algemene en veiligheidseisen

This document applies to centrifugal pumps without priming devices for fire-fighting use designed as - floating pumps (FPN-F) ; - submersible pumps (FPN-S) or - boosted pumps (FPN-B). Fire-fighting centrifugal pumps without primer are defined as terminated by their inlet and outlet connections as well as by their shaft ends. This document applies for fire-fighting centrifugal pumps without priming devices for use under ambient temperatures between -15 °C and 40 °C.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14710-1:2005+A2:2009 en

€ 61.30

NEN-EN 14710-2:2005+A2:2009

Brandweerpompen - Centrifugaalpompen zonder ontluchtingsinrichting - Deel 2: Verificatie van algemene en veiligheidseisen

This document covers verification of the general and safety requirements of fire-fighting centrifugal pumps without primer as specified in EN 14710-1. This document does not apply to fire-fighting centrifugal pumps without primer that are manufactured before the date of publication by CEN of this document.

Type C 2006/42/EG Geverifieerd

NEN-EN 14710-2:2005+A2:2009 en

€ 61.30

NEN-EN 16327:2014

Brandweer - Overdruk schuim bijmengsystemen en druklucht schuimsystemen

NEN-EN 16327 applies to systems which add a foam concentrate to the water discharged from a fire-fighting centrifugal pump either: a) by a positive-pressure proportioning system (PPPS) alone, or b) together with compressed-air by means of a compressed-air foam system (CAFS). In both cases pressure is applied to the foam concentrate in order to permit continuous operation. Such systems are permanently installed in fire-fighting vehicles. Permanently installed or fixed systems in buildings or structures are not covered by this European Standard. This European Standard applies to the design, manufacture and operation of such systems. This European Standard deals with all significant hazards, hazardous situations and events relevant to PPPS and CAFS when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard applies to the design, manufacture and operation of such systems. This European Standard deals with all significant hazards, hazardous situations and events relevant to PPPS and CAFS when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 16327:2014 en

€ 74.30

NEN-EN 16712-4 Ontw.

Draagbare armaturen voor het opbrengen van blusmiddelen geleverd door brandbluspompen - Draagbare schuimarmaturen - Deel 4: Lichtschuim generatoren PN 16

This European Standard applies to high expansion foam generators, having an expansion ratio greater than 200:1, whose only source of external power is the pressure and/or flow of the water supply to the device. This is used by fire and rescue services and contains their specification and test procedures.

Type C

NEN-EN 16712-4:2017 Ontw. en

€ 23.50

Centrifuges (industriële -)

NEN-EN 12547:2014

Centrifuges - Algemene veiligheidseisen

NEN-EN 12547 applies to centrifuges for the separation or change in concentration of mixtures of liquids and solids. It gives requirements to minimize the risks caused by the significant hazards arising during the operation of centrifuges as specified in 1.2.

Type C 2006/42/EG Geverifieerd

NEN-EN 12547:2014 en

€ 86.00

Drukkerij en papierverwerkingsmachines

NEN-EN 1010-1:2005+A1:2010

Veiligheid van machines - Veiligheidseisen voor het ontwerp en het vervaardigen van druk- en papierverwerkingsmachines - Deel 1: Algemene eisen

This document applies to: printing machines for printing on paper and similar materials, including screen printing presses; equipment used in the preparation of the printing process and additional equipment on printing machines are also considered to be printing machines. This standard also covers machinery used for the handling of paper, products, printing forms and inks (before and after the printing process) as well as machinery for cleaning printing forms and checking the print quality (auxiliary printing machinery), paper converting machines, i. e. machines to process, convert or finish paper, board and similar materials which are processed, converted or finished in a similar manner.

Type C 2006/42/EG Geverifieerd

NEN-EN 1010-1:2005+A1:2010 en

€ 86.00

NEN-EN 1010-2:2006+A1:2010

Veiligheidseisen van machines - Veiligheidseisen voor het ontwerp en de constructie van druk- en papierverwerkingsmachines - Deel 2: Druk- en verfmachines inclusief voordrukmachines

This document applies to: Pre-press machinery (machinery and devices for the production of master copies and printing forms); exposure equipment for the production of films and printing forms; equipment for developing films and printing forms; washing machines for printing forms; machines for bending printing forms; punching machines for film and printing forms; cutting machines for film and printing forms; machines for the production of gravure printing forms; scanners. Printing and varnishing machines: proofing presses; sheet-fed printing presses and varnishing machines including digital printing presses; web-fed rotary presses and varnishing machines including digital printing presses; screen printing presses.

Type C 2006/42/EG Geverifieerd

NEN-EN 1010-2:2006+A1:2010 en

€ 86.00

NEN-EN 1010-3:2003+A1:2009

Veiligheid van machines - Veiligheidsvoorschriften voor het ontwerp en de constructie van druk- en papierverwerkingsmachines - Deel 3: Snijmachines

This European Standard applies to cutting machines used in paper converting: - guillotines; - three-knife trimmers; - index cutting machines; - trimmers; - rotary cutters; - round cornering machines; - label punching machines. This European Standard is only applicable in conjunction with EN 1010-1:2004+A1. Both parts together identify all significant hazards relevant to the cutting machines when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). The specific requirements of this European Standard take precedence over respective requirements of EN 1010-1:2004+A1. This European Standard is not applicable to cutting machines manufactured before the publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1010-3:2003+A1:2009 en

€ 61.30

NEN-EN 1010-4:2004+A1:2009

Veiligheid van machines - Veiligheidsvoorschriften voor het ontwerp en de constructie van druk- en papierverwerkingsmachines - Deel 4: Boekbind-, papierverwerkings- en afwerkingsmachines

This document applies to - bookbinding machines: - stitching, riveting, eyeletting and attaching machines; - gang stitchers; - gathering machines; - perfect binders; - paper drills; - book signature presses; - book presses; - sheet folding machines; - book production lines for the production of books with hard covers; - back rounding and pressing machines; - backlining and head banding machines; - casing-in machines; - book cover crease forming machines. - paper converting machines: - machines for the production of envelopes; - machines for the production of sanitary items; - inserting machines; - counter-stackers; - paper embossing machines. - paper finishing machines: - coaters; - laminators. This document shall be used together with EN 1010-1:2004+A1. Both parts together identify all significant hazards relevant to bookbinding, paper converting and paper finishing machines when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). The specific requirements in EN 1010-4 take precedence over respective requirements in EN 1010-1:2004+A1. This document does not deal with risks generated by noise emitted from the machines. These issues are covered basically in EN 1010-1:2004+A1. However, for machines like sheet folding machines and machines for the production of envelopes and sanitary items, some specific proposals for noise reduction measures are given. This document is not applicable to bookbinding, paper converting and finishing machines manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1010-4:2004+A1:2009 en

€ 98.50

NEN-EN 1010-5:2005/FOntw. A1

Veiligheid van machines - Veiligheidsvoorschriften voor het ontwerp en de constructie van druk- en papierverwerkingsmachines - Deel 5: Machines voor de productie van golfkarton en machines voor de conversie van vlak- en golfkarton

Type C

NEN-EN 1010-5:2005/Ontw. A1:2010 en

€ 23.50

NEN-EN 1034-1:2000+A1:2010

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 1: Algemene eisen

This standard applies to paper making and paper finishing machines. It contains definitions and requirements which apply to all paper making and paper finishing machines listed in annex A and shall be used in connection with the specific part applicable for the respective machine listed in annex A. Specific parts can contain additional requirements or deviations from EN 1034-1 in which case the specific stipulations take precedence over the specification made in EN 1034-1. The standard deals with the hazards listed in 4. This standard does not apply to machines used in paper converting. See EN 1010-1 to EN 1010-5.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-1:2000+A1:2010 en

€ 61.30

NEN-EN 1034-2:2006+A1:2009

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 2: Ontschoringsmachine

This European Standard applies to barking drums consisting of drum, drive, power transmission elements, supporting wheels and control systems intended for use in debarking plants for paper making and shall be used together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to barking drums, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This standard does not apply to sawing equipment or log and bark conveying systems used in debarking plants. This European Standard is not applicable to barking drums that have been manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-2:2006+A1:2009 en

€ 49.30

NEN-EN 1034-3:2011

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 3: Omwikkelaars en bobineuses

This European Standard applies to rereelers and winders and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to machines for the production of paper and board, when used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-3:2011 en

€ 74.30

NEN-EN 1034-4:2005+A1:2009

Veiligheidsmachines - Veiligheidseisen voor het ontwerp en de constructie van machines voor papierfabricage en -afwerking - Deel 4: Pulpers en hun laadfaciliteiten

This European Standard applies to pulpers and their loading facilities intended for use in paper making and shall be used together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to pulpers and their loading facilities, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This European Standard is not applicable to pulpers and their loading facilities that have been manufactured before the date of publication of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-4:2005+A1:2009 en

€ 49.30

NEN-EN 1034-5:2005+A1:2009

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 5: Snijmachines

This European Standard applies to sheeters, including unwinding units, sheet stacker, drive and control units intended for use in paper making and shall be used together with !EN 1034-1:2000+A1:2010". Paper dust and edge strip suction devices are not covered by this standard. It deals with all significant hazards, hazardous situations and hazard events relevant to sheeters, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This standard does not apply to: - sheeters for corrugated board (see EN 1010-5); - sheeters for foil (see EN 1010-1); - sheeters with sheet feeders (see EN 1010-1); - guillotines (see EN 1010-3:2002). This document is not applicable to sheeters that have been manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-5:2005+A1:2009 en

€ 61.30

NEN-EN 1034-6:2005+A1:2009

Veiligheidsmachines - Veiligheidseisen voor het ontwerp en de constructie van machines voor papierfabricage en -afwerking - Deel 6: Kalander

This European Standard applies to calenders intended for use in paper making and finishing and shall be used together with !EN 1034-1:2000+A1:2010". It deals with all significant hazards listed in clause 4. Related safety requirements and/or measures are described in clause 5.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-6:2005+A1:2009 en

€ 61.30

NEN-EN 1034-7:2005+A1:2009

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 7: Verdeelkasten

This European Standard applies to chests used in paper making and shall be applied together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to chests when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This European Standard does not apply to tanks for chemicals, storage tanks for starch and other additives used in paper making or basins or vessels for waste water resulting from the paper making process.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-7:2005+A1:2009 en

€ 49.30

NEN-EN 1034-8:2012

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 8: Zuiveringsmachines

This European Standard applies to low consistency refining plants, i.e. plants working with suspensions of fibres of virgin pulp, mechanical wood pulp or deinking pulp in water with a consistency up to approximately 6 %, used in the paper making process and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to refining plants, when used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This standard does not apply to beaters. This document is not applicable to machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-8:2012 en

€ 49.30

NEN-EN 1034-13:2005+A1:2009

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 13: Machines voor het persen van balen en units

This European Standard applies to machines for de-wiring bales and units and shall be used together with !EN 1034-1:2000+A1:2010". It deals with all significant hazards, hazardous situations and hazard events relevant to machines for de-wiring bales and units, when used as intended and under conditions reasonably foreseeable by the manufacturer as incorrect application (see clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-13:2005+A1:2009 en

€ 49.30

NEN-EN 1034-14:2005+A1:2009

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 14: Haspelverdeler

This European Standard applies to reel splitters intended for use in paper making and shall be used together with !EN 1034-1:2000+A1:2010". It deals with all significant hazards, hazardous situations and hazardous events relevant to reel splitters when used as intended and under the conditions reasonably foreseen by the manufacturer as incorrect application (see clause 4). This European Standard applies only to reel splitters with a movable knife and of the following designs: - machines with a vertically moving knife pressed downwards from the top onto the reel, generally right to the core so that the layers of wound paper are separated one after the other and fall off; - machines with a driven and movable circular knife that cuts the wound layers of the horizontal reel successively, beginning from the top down to the core, with the cut layers of wound paper falling off one after the other. This European Standard also applies to the integrated conveyor belts and the integrated pivoting platform. This European Standard also covers the guard rails at the interface of the reel splitter and a pulper that is charged with an integrated conveyor belt of the reel splitter.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-14:2005+A1:2009 en

€ 49.30

NEN-EN 1034-16:2012

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 16: Machines voor papier- en kartonfabricage

This European Standard applies to machines for the production of paper and board, including head box, wire section (former), press section, drying section, film size press, coating unit, flotation and infrared dryer, smoothing unit, integrated calender, measuring device, reel-up, integrated sheeter, drives and control system (paper and board making machines) and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to machines for the production of paper and board, when used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-16:2012 en

€ 74.30

NEN-EN 1034-17:2012

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 17: Tissue maakmachines

This European Standard applies to tissue making machines for the production of soft and crepe paper and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to tissue making machines when used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This document does not deal with pressure hazards in steam-heated drying cylinders and Yankee cylinders.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-17:2012 en

€ 74.30

NEN-EN 1034-21:2012

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papiervervaardiging en -afwerking - Deel 21: Coating machines

This European Standard applies to coating machines applying the wet process for off-line coating of base paper including unwind unit, coating units, drying section, flotation and infrared dryer, smoothing unit, integrated calender, measuring device, reel-up, integrated sheeter, drives and control system and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to coating machines, when used as intended and under the conditions foreseen by the manufacturer. This document does not deal with pressure hazards in steam-heated drying cylinders. This document does not apply to: - paper and board making machines, - equipment for the treatment of coating substances, - coating machines using solvent-based colours, - coating machines applying silicon, adhesives or resin onto the paper web, - printing and varnishing machines, - integrated conveyors and cranes designed for transporting reels/shells (reel spools) and for machine maintenance, - integrated fire extinguishing equipment. This document is not applicable to coating machines which are manufactured before the date of publication as an EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-21:2012 en

€ 74.30

NEN-EN 1034-22:2005+A1:2009

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 22: Houtvermalers

This European Standard applies to wood grinders intended for the production of pulp used in paper making including sharpening devices and shall be used together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to wood grinders when used as intended and under the conditions foreseen by the manufacturer (see clause 4). This standard does not apply to loading facilities. Hazards caused by overpressure are not covered by this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-22:2005+A1:2009 en

€ 49.30

NEN-EN 1034-26:2012

Veiligheidsmachines - Veiligheidseisen voor het ontwerp en de constructie van machines voor papierfabricage en -afwerking - Deel 26: Rolverpakkingsmachines

This European Standard applies to roll packaging machines for use in papermaking and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazardous events relevant to roll packaging machines, when used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This document is not applicable to roll packaging machines which are manufactured before the date of publication as an EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-26:2012 en

€ 61.30

NEN-EN 1034-27:2012

Veiligheid van machines - Veiligheidseisen voor het ontwerp en de constructie van machines voor de papierfabricage en -afwerking - Deel 27: Roll-handling systemen

This European Standard applies to roll handling systems for use in paper finishing and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazardous events relevant to roll handling systems, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard does not apply to: - machine reel handling systems; - stacker trucks, industrial trucks and driverless industrial trucks; - separate storage systems with cranes and high bay storage systems; - portable devices for moving rolls. This European Standard is not applicable to roll handling systems which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1034-27:2012 en

€ 61.30

NEN-EN 13023:2003+A1:2010

Meetmethoden van geluid voor druk-, papieromzettings-, en papiervervaardigende machines en hulpapparatuur - Nauwkeurigheidsgraden 2 en 3

This standard specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration and verification of airborne noise emission from printing and paper converting machines covered by the EN 1010 series and from paper making and finishing machines covered by the EN 1034 series. It specifies noise measurement methods and installation and operating conditions to be used for the test. This standard applies to those machines listed in the normative annexes A to J. The principles of this noise test code should be applied as far as possible also for the determination of noise emission of machines and machine parts not listed in the normative annexes A to J. In such cases, all information relating to assembly, installation and operating conditions as well as the arrangement of work stations should be recorded and reported in the test report. Noise emission characteristics include emission sound pressure levels at work stations and the sound power level. Declared noise emission values permit comparison of printing and paper machines on the market. The use of this noise test code ensures the reproducibility of the determination of the characteristic noise emissions within specific limits. These limits are determined by the accuracy grade of the noise measuring method used. Noise measurements specified by this standard are carried out by the engineering method (accuracy grade 2) and the survey method (accuracy grade 3).

Type C 2006/42/EG Geverifieerd

NEN-EN 13023:2003+A1:2010 en

€ 86.00

Gieterijtechniek (machines voor de -)**NEN-EN 710:1997+A1:2010**

Veiligheid van machines - Veiligheidseisen voor toestellen, installaties en verwante inrichtingen waarmee gietvormen en -kernen worden gemaakt

This standard specifies safety requirements to be met by the manufacturer for machines and plant used in foundries for the production of castings in disposable models. It takes into account the foreseeable significant hazards due to design, construction and installation that may occur during commissioning, operation, maintenance and decommissioning. It specifies preventative measures and verification means for the elimination or reduction of these hazards. It specifies requirements for information to be provided by the manufacturer to the user on safe operation and maintenance. This standard applies to the following equipment: - Machinery and plant constructed to condition and/or reclaim foundry sands; - Moulding machinery and plants; - Coremaking machinery and plants; - Knock-out equipment; - Other directly associated equipment. The foreseeable significant hazards covered are listed in clause 5 and include: - Mechanical hazards, movement of machinery and workpieces, ejection of material, of liquids and gases, inadequacy of the mechanical strength; Explosion, fire, exothermic reactions; - Contact with hot parts, gases and flames; - Noise and vibration; - Thermal heat radiation and conduction; - Harmful by-products, poisoning, pollution of operators' breathing air. This standard applies to equipment covered by this standard which is placed on the market after the date of issue of this standard. This standard does not cover the safety requirements for wax- and lost foam pattern production and wax removal equipment and drying ovens. This standard does not apply to crane installations, winches, continuous conveyors or handling systems which could be an integral part of the above equipment. The standard does not cover dust reduction equipment.

Type C 2006/42/EG Geverifieerd

NEN-EN 710:1997+A1:2010 en

€ 86.00

NEN-EN 710:1997+A1:2010/C1:2012

Veiligheid van machines - Veiligheidseisen voor toestellen, installaties en verwante inrichtingen waarmee gietvormen en -kernen worden gemaakt

Type C 2006/42/EG Geharmoniseerd

NEN-EN 710:1997+A1:2010/C1:2012 en

€ 0.00

NEN-EN 869:2006+A1:2009

Gieterijmachines - Veiligheidseisen voor onder (hoge) druk werkende gietmachines voor metalen

This European Standard specifies the safety requirements for pressure metal diecasting units. It applies to pressure diecasting machines and to the interfaces with the following ancillary equipment: - die, - melting, holding and dosing furnaces (see EN 746-1), - metal feeding equipment, - inserting and removal devices, - spraying appliances, - heat exchanger for the die. This ancillary equipment itself is not covered. Additional risks arising from the material being cast are not covered.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 869:2006+A1:2009 en

€ 74.30

NEN-EN 1247:2004+A1:2010

Gieterijmachines - Veiligheidseisen voor gietpannen, gietmachines, centrifugaalgietmachines, continu- en semi-continu-gietmachines

design, construction and installation, during commissioning, operation, maintenance, and decommissioning of the following machines and equipment which are used directly and indirectly for the manufacture of castings: - Ladles; - Pouring equipment; - Centrifugal casting machines for production of tubes (only machines with horizontal or oblique axis of rotation); - Continuous and semi continuous casting machines for non-ferrous metals. This document specifies the safety requirements in addressing the following items: - controls; - protection against: - mechanical hazards, movement of machines and material, ejection of parts, material, liquids and gases, implosion, structural instability; - electric hazards; - explosion, fire, scalds, contact with hot parts (burns), gases and flames; - noise and vibration; - thermal radiation; - harmful by-products, poisoning, pollution of operators air; - impact; - deterioration of worker's health; - shearing; - crushing; - maintenance, provision for warning systems. It is assumed that - normal operation of equipment falling within this scope may involve the intervention of personnel; - machines are operated by skilled and adequately trained persons; - machines are used with adequate workplace lighting conforming to local regulations, or to EN 12464-1. This document does not specify the safety requirements for machines in combination and for ancillary plant, melting, holding, drying and/or heating equipment, crane installations, winches, conveyors or handling systems which could be an integral part of the above equipment, or ladles which are specific to steelworks or ladles forming part of a crane or ladles for pouring by a casting machine or vessels used for molten metal transport on public highway, or continuous or semi continuous casting equipment which is specific to steelworks, or ladles which are carried by hand. This document is not applicable to ladles, pouring equipment, centrifugal casting machines and continuous and semi-continuous casting machines which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1247:2004+A1:2010 en

€ 74.30

NEN-EN 1248:2001+A1:2009

Gieterijmachines - Veiligheidseisen voor straalinstallaties

This standard specifies requirements to be met by the manufacturer of abrasive blasting equipment for the foreseeable significant hazards due to design, construction and installation, during commissioning, operation, maintenance and decommissioning of the equipment which employ either centrifugal force or compressed air as a means of accelerating abrasive to achieve the desired result. Abrasive blasting equipment covers:- centrifugal blasting machines;- air blasting machines;- loading, conveying and unloading systems for the workpieces. See Annex A for more details. This standard covers all foreseeable significant hazards which could be encountered during the lifetime of the machine as listed in clause 5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1248:2001+A1:2009 en

€ 74.30

NEN-EN 1265:1999+A1:2008

Veiligheid van machines - Regels voor het meten van het geluid veroorzaakt door gietmachines en -installaties

This noise test code specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration and verification of the !noise emission values" of several groups of foundry machinery. It specifies noise measurement methods that are available and operating and mounting conditions that shall be used for the test. !Noise emission values" include emission sound pressure levels at work stations and the sound power level. The determination of these quantities is necessary for: - manufacturers to declare the noise emitted; - comparing the noise emitted by machines in the group concerned; - purposes of noise control at the source at the design stage. The use of this standard ensures the reproducibility of the determination of the !noise emission values" within specified limits determined by the grade of accuracy of the basic noise measurement method used. Noise measurement methods allowed by this standard are engineering methods (grade 2) and survey methods (grade 3). This standard has a main body giving general requirements common to the foundry machines family. Six normative Annexes give requirements specific to the groups of foundry machinery listed below: - core making machines (EN 710); - moulding machines (EN 710); - knock-out grids and knock-out trays (EN 710); - dry abrasive blasting equipment (not restricted to foundry application) (!EN 1248"); - air blasting equipment (!EN 1248"); diecasting machines (EN 869); and six informative Annexes giving guidance for the definition of specific operating conditions. The main body of this standard also gives guidance for the measurement of the noise emission of foundry machines not dealt with in the Annexes. This standard does not cover the computation of personnel daily noise exposure.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1265:1999+A1:2008 en

€ 74.30

Handgereedschap, niet-elektrisch

NEN-EN 792-13:2000+A1:2008

Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 13: Nietmachines

This standard is applicable to fastener driving tools which are handled by one person and in which energy in a linear movement is applied to a loaded fastener for the purpose of driving this into a workpiece of a determined material. During the driving operation, the fastener leaves the tool partially or entirely, with sufficient velocity to overcome the resistance of penetration, and forms a mechanical connection or attachment of different workpieces. The energy required for driving a fastener is provided by compressed air or combustible gases.

Type C 2006/42/EG Geverifieerd

NEN-EN 792-13:2000+A1:2008 en

€ 74.30

NEN-EN-ISO 11148-1:2011

Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 1: Montagegereedschap voor bevestigingsmiddelen zonder Schroefdraad

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools (hereinafter "assembly power tools for non-threaded mechanical fasteners") intended for installation, tightening or removal of both breakstem and non-breakstem rivets, bolts, plugs and fasteners from one side of a workpiece into metals, plastics and other materials. The assembly power tools for non-threaded mechanical fasteners can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - breakstem fastener, rivet or plug tools; - breakstem lockbolt tools; - mandrel loaded riveting tools; - rivet nut setters. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to assembly power tools for non-threaded mechanical fasteners when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of power tools in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-1:2011 en

€ 106.87

NEN-EN-ISO 11148-2:2011

Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 2: Knip- en krimpgereedschap

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools without rotation (hereinafter "cutting-off and crimping power tools") intended for cutting off wires, cables, etc., and for crimping, for instance, connectors to cable ends. The cutting-off and crimping power tools can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - crimping tools without a yoke; - cutters; - cutting-off tools; - cutting pliers; - crimping pliers. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to cutting-off and crimping power tools when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of cutting-off and crimping power tools in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-2:2011 en

€ 106.87

NEN-EN-ISO 11148-3:2013

Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 3: Boor- en tapmachines

This part of ISO 11148 applies to hand-held non-electric power tools (hereinafter "drills and tappers") intended for rotary drilling of holes in all kinds of material, e.g. wood, metal, concrete and plastics, or for tapping and cleaning threads in metal and plastics. The drills and tappers can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended for use by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to - drills; - heavy duty drills with two handles; - tappers. This part of ISO 11148 is not applicable to special requirements and modifications of drills and tappers for the purpose of mounting them in fixtures. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events when drills and tappers are used as intended and under conditions of misuse that are reasonably foreseeable by the manufacturer, with the exception of their use in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-3:2013 en

€ 124.99

NEN-EN-ISO 11148-4:2013

Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 4: Niet-roterend slaggereedschap

This part of ISO 11148 applies to hand-held non-electric power tools (hereinafter "non-rotary percussive power tools") intended for chipping, riveting, breaking of concrete and asphalt, ramming, etc. The non-rotary percussive power tool can be powered by compressed air, hydraulic fluid or internal combustion engines and is intended for use by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 covers - breakers; - bush hammers; - chipping hammers; - small chisels; - engraving pens; - needle scalers; - pick hammers; - pile drivers; - portable pile drivers; - punches; - rammers; - riveting hammers; - scaling hammers; - stone hammers; - spades; This part of ISO 11148 does not cover special requirements and modifications on non-rotary percussive power tools for the purpose of mounting in a fixture. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events when the tools are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of non-rotary percussive power tools in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-4:2013 en

€ 124.99

NEN-EN-ISO 11148-5:2011**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 5: Roterende slagboormachines**

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools (hereinafter "rotary percussive drills") intended for making holes in hard materials, such as rock and concrete. The rotary percussive drills can be powered by compressed air, hydraulic fluid or internal combustion engines (ICEs) and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - plug hole drills; - rock drills; - rotary hammers. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to rotary percussive drills when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of rotary percussive drills in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-5:2011 en

€ 106.87

NEN-EN-ISO 11148-6:2013**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 6: Montagegereedschap voor bevestigingsmiddelen met Schroefdraad**

This part of ISO 11148 applies to hand-held non-electric power tools (hereinafter "assembly power tools for threaded fasteners") intended for tightening or installing of threaded fasteners. The assembly power tools for threaded fasteners can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended for use by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 covers - air-hydraulic impulse wrenches; - impact wrenches; - fastener installation tools; - nutrunners; - open-ended spanners (crow-foot with open-ended socket or tube nut wrench); - ratchet wrenches; - screwdrivers. This part of ISO 11148 does not cover special requirements and modifications of assembly power tools for threaded fasteners for the purpose of mounting them in fixtures. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events when the tools are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of assembly power tools for threaded fasteners in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-6:2013 en

€ 124.99

NEN-EN-ISO 11148-7:2012**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 7: Slijpmachines**

This part of ISO 11148 applies to hand-held non-electric power tools (hereafter referred to as "grinders") intended for grinding and cutting-off with abrasive products, for use on all kinds of materials. The grinders may be powered by compressed air or hydraulic fluid and intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This document covers grinders used with: ? abrasive products with a peripheral operating speed less than or equal to 80 m/s; ? cutting-off wheels with a peripheral operating speed less than or equal to 100 m/s; ? abrasive products with outside nominal diameter less than or equal to 230 mm; ? cutting-off wheels with outside nominal diameter less than or equal to 250 mm; ? wire brushes; ? diamond and reinforced [segmented] wheels with outside nominal diameter less than or equal to 450 mm; ? flap discs and flap wheels.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-7:2012 en

€ 161.21

NEN-EN-ISO 11148-8:2011**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 8: Schuurmachines en polijstmachines**

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools (hereinafter "sandlers and polishers") intended for polishing and sanding with all types of movement, e.g. rotary, orbital and reciprocating, using coated abrasive products, bonnets of various soft materials and endless belts. The sandlers and polishers can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - belt sandlers; - orbital sandlers; - polishers; - random orbital sandlers; - rotary sandlers; - straight-line sanders. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to sandlers and polishers when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of sandlers and polishers in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-8:2011 en

€ 106.87

NEN-EN-ISO 11148-9:2011**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 9: Slijpmachines met opgespannen werktuigen**

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools fitted with collets (hereinafter "die grinders") intended for grinding and surface finishing and chamfering using mounted points, burrs and files and small wire brushes and other accessories mounted on shanks. The die grinders can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - angle die grinders; - reciprocating files; - rotary files; - straight die grinders. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to die grinders when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of die grinders in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-9:2011 en

€ 106.87

NEN-EN-ISO 11148-10:2011**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 10: Persgereedschap**

This part of ISO 11148 specifies safety requirements for hand-held non-electric compression power tools (hereinafter "compression power tools") intended for squeeze riveting, punching, shaping, pressing and cutting of metal, plastics and other materials. The compression power tools can be powered by compressed air or hydraulic fluid and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - crimping tools; - collar splitters; - power tools for metal forming (edge formers, folding tools, swagers); - nut splitter heads; - presses; - punches; - squeeze riveters; - cutting power tools with parallel knives; - This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to compression power tools when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of compression power tools in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-10:2011 en

€ 106.87

NEN-EN-ISO 11148-11:2011**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 11: Knabbel- en plaatsscharen.**

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools (hereinafter "nibblers and shears") with a reciprocating movement for nibbling and shearing. The nibblers and shears can be powered by compressed air or hydraulic fluid and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to: - nibblers; - shears. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to nibblers and shears when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of nibblers and shears in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-11:2011 en

€ 106.87

NEN-EN-ISO 11148-12:2012**Handgereedschap met niet-elektrische aandrijving - Veiligheidseisen - Deel 12: Cirkelzagen, decoupeerzagen en reciproceerzagen**

This part of ISO 11148 specifies safety requirements for hand-held non-electric power tools (hereinafter "circular, oscillating and reciprocating saws") intended for sawing. The circular, oscillating and reciprocating saws can be powered by compressed air, hydraulic fluid or internal combustion engines and are intended to be used by one operator and supported by the operator's hand or hands, with or without a suspension, e.g. a balancer. This part of ISO 11148 is applicable to - circular saws; - circular knives; - oscillating saws having a saw blade with a radius of 50 mm or less or a diamond cutting-off blade with a radius of 100 mm or less; - oscillating knives (including windshield knives); - reciprocating saws, including jig saws and power hack saws. This part of ISO 11148 is not applicable to special requirements and modifications of circular, oscillating and reciprocating saws for the purpose of mounting them in fixtures. This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events relevant to circular, oscillating and reciprocating saws when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of circular, oscillating and reciprocating saws in potentially explosive atmospheres.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11148-12:2012 en

€ 124.99

NEN-EN 12549:1999+A1:2008**Akoestiek - Geluidmetingen voor montagereedschap voor bevestigingsartikelen - Praktijkmethode**

This standard applies to fastener driving tools. The noise created by fastener driving tools directly affecting the surrounding environment (noise emission) should be calculated in a uniform procedure enabling comparison of the final results. This standard contains provisions concerning the execution of the measurement of airborne noise in the vicinity of fastener driving tools and the measurement of emission sound pressure levels at the work station under defined operating conditions. The determination of the noise emission levels of fastener driving tools in accordance with this standard is valid for all actuating systems in accordance with EN 792-13. The results can be used to compare the noise emissions of different fastener driving tools.

Type C 2006/42/EG Geverifieerd

NEN-EN 12549:1999+A1:2008 en

€ 49.30

NEN-EN-ISO 15744:2008**Niet-elektrische aangedreven handgereedschap - Geluidmeetmethode - Praktijkmethode (klasse 2)**

This standard specifies test methods for the measurement, determination and declaration of the noise emission from hand-held non-electric power tools. It prescribes the loading and working conditions under which can be determined a) the noise emission, under specified load conditions, expressed as the sound power level, and b) the emission sound pressure level at the work station under specified load conditions.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 15744:2008 en

€ 106.87

Handgereedschap, elektrisch**NEN-EN 50416:2005/A1:2015****Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Bijzondere eisen voor afwasmachines voor bedrijfsgebruik**

Type C

NEN-EN 50416:2005/A1:2015 en

€ 31.80

NEN-EN 50569:2013**Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Bijzondere eisen voor commerciële centrifuges**

This clause of Part 1 is replaced by the following: This European Standard deals with the safety of electrical operated spin extractors intended to be used by trained users in i.e. hotels, hospitals, factories, in light industry and on farms. It also covers spin extractors which are declared for commercial use in public areas and operated by lay persons e.g. in laundrettes, communal laundry rooms. Their rated voltage being not more than 250 V for single phase and 480 V for others. This European Standard deals with the common hazards presented by spin extractors that are encountered by all persons. However, in general, it does not take into account: a) persons (including children) whose: 1) physical, sensory or mental capabilities, or 2) lack of experience and knowledge, prevents them from using the spin extractors safely without supervision or instruction, b) children playing with the spin extractors. Attention is drawn to the fact that: - for commercial electric spin extractors intended to be used in vehicles or on board ships or aircraft, additional requirements might be necessary, - in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities. This European Standard does not apply to: c) industrial laundry machinery (EN ISO 10472-2), d) spin extractors intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas). For the purpose of this standard, the term "appliance" as used in Part 1 is to be read as "Spin extractors intended for commercial use".

Type C 2006/42/EG Geverifieerd

NEN-EN 50569:2013 en

€ 61.30

NEN-EN 50570:2013**Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Bijzondere eisen voor commerciële droogtrommels**

NEN-EN 50570 deals with the safety of electrical operated tumble dryers intended to be used by trained users in i.e. hotels, hospitals, factories, in light industry and on farms. It also covers tumble dryers which are declared for commercial use in public areas and operated by lay persons e.g. in laundrettes, communal laundry rooms. The rated voltage shall not be more than 250 V for single phase and 480 V for others. This standard also deals with the safety of tumble dryers that use a refrigerating system, incorporating sealed motor-compressors, for drying textile material. These machines may use flammable refrigerants. Additional requirements for these machines are given in Annex BB. This standard also covers tumble dryers making use of other energy sources. It does not cover requirements for these other energy sources. However the influence of these other energy sources on the machines is covered. This standard deals with the common hazards presented by tumble dryers that are encountered by all persons. However, in general, it does not take into account: a) persons (including children) whose: 1) physical, sensory or mental capabilities, or 2) lack of experience and knowledge prevents them from using the tumble dryers safely without supervision or instruction; b) children playing with the tumble dryer. Attention is drawn to the fact that: - for commercial electric tumble dryers intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary; - in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities, the national authorities responsible for transportation and the national authorities for buildings. This European Standard does not apply to: c) industrial laundry machinery (EN ISO 10472-4), d) tumble dryers intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas). For the purpose of this standard, the term "appliance" as used in Part 1 is to be read as "tumble dryers intended for commercial use".

Type C 2006/42/EG Geverifieerd

NEN-EN 50570:2013 en

€ 61.30

NEN-EN 50571:2013**Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Bijzondere eisen voor commerciële elektrische wasmachines**

This clause of Part 1 is replaced by the following: This European Standard deals with the safety of electrical operated washing machines intended to be used by trained users in e.g. hotels, hospitals, factories, in light industry and on farms. It also covers washing machines declared for commercial use in public areas and operated by lay persons e.g. in laundrettes, communal laundry rooms. Their rated voltage being not more than 250 V for single phase and 480 V for others. This standard also covers washing machines making use of other energy sources. It does not cover requirements for these other energy sources or compressed air. However the influence of these other energy sources on the machines is covered. These washing machines are designed to be connected to hot and/or cold water supply. Washing machines making use of steam or hot water for heating purposes are also within the scope of this standard. This standard deals with the common hazards presented by washing machines that are encountered by all persons. However, in general, it does not take into account: a) persons (including children) whose: 1) physical, sensory or mental capabilities, or 2) lack of experience and knowledge, prevents them from using the washing machine safely without supervision or instruction; b) children playing with the washing machine. Attention is drawn to the fact that: - for commercial electric washing machines intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary, - in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities, - for commercial electric washing machines having a drying function, EN 50570 (commercial electric tumble dryers) is also applicable. This European Standard does not apply to: c) industrial laundry machinery (EN ISO 10472-2), d) washing machines intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas). For the purpose of this standard, the term "appliance" is to be read as "washing machine intended for commercial use".

Type C 2006/42/EG Geverifieerd

NEN-EN 50571:2013 en

€ 61.30

NEN-EN-IEC 60335-1:2012**Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 1: Algemene eisen**

This International Standard deals with the safety of electrical appliances for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-1:2012 en

€ 316.99

NEN-EN-IEC 60335-1:2012/A12:2017

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 1: Algemene eisen

Type C

NEN-EN-IEC 60335-1:2012/A12:2017 en

€ 26.38

NEN-EN-IEC 60335-1:2012/A13:2017

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 1: Algemene eisen

Type C

NEN-EN-IEC 60335-1:2012/A13:2017 en

€ 34.66

NEN-EN-IEC 60335-1:2012/C11:2014

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 1: Algemene eisen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-1:2012/C11:2014 en

€ 0.00

NEN-EN-IEC 60335-2-23:2003

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-23: Bijzondere eisen voor toestellen voor huid- en haarverzorging

Deals with the safety of electric appliances for the care of skin or hair of persons or animals, intended for household and similar purposes. The rated voltage of the appliance being not more than 250 V.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-23:2003 en

€ 83.09

NEN-EN-IEC 60335-2-23:2003/A2:2015

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-23: Bijzondere eisen voor toestellen voor huid- en haarverzorging

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-23:2003/A2:2015 en

€ 9.06

NEN-EN-IEC 60335-2-36:2004/A11:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-36: Bijzondere eisen voor fornuizen, ovens en kookelementen voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-36:2004/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-37:2004/A11:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-37: Bijzondere eisen voor frituurpannen voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-37:2004/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-37:2004/A12:2016

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-37: Bijzondere eisen voor frituurpannen voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-37:2004/A12:2016 en

€ 17.55

NEN-EN-IEC 60335-2-40:2003/A13:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-40: Bijzondere eisen voor warmtepompen, luchtbehandelingstoestellen en ontvochtigers

Type C

NEN-EN-IEC 60335-2-40:2003/A13:2012 en

€ 34.66

NEN-EN-IEC 60335-2-40:2003/A13:2012/C11:2013

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-40: Bijzondere eisen voor elektrische warmtepompen, luchtbehandelingstoestellen en ontvochtigers

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-40:2003/A13:2012/C11:2013 en

€ 0.00

NEN-EN-IEC 60335-2-42:2003/A11:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-42: Bijzondere eisen voor hete-luchtovens, stoomkokers en stoom/heteluchtovens voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-42:2003/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-47:2003/A11:2012

Veiligheid van huishoudelijke en soortgelijke elektrische toestellen - Deel 2-47: Bijzondere eisen voor kookketels voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-47:2003/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-48:2003/A11:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-48: Bijzondere eisen voor elektrische grills en broodroosters voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-48:2003/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-49:2003/A11:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-49: Bijzondere eisen voor apparaten voor warmhouden van voedsel en serviesgoed voor bedrijfsgebruik

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-49:2003/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-58:2005/A12:2016

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-58: Bijzondere eisen voor afwasmachines voor bedrijfsgebruik

Type C

NEN-EN-IEC 60335-2-58:2005/A12:2016 en

€ 34.66

NEN-EN-IEC 60335-2-65:2003

Veiligheid van huishoudelijke en soortgelijke elektrische toestellen - Deel 2-65: Bijzondere eisen voor luchtreinigingstoestellen

Deals with the safety of electric air-cleaning appliances for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-65:2003 en;fr

€ 16.62

NEN-EN-IEC 60335-2-65:2003/A11:2012

Veiligheid van huishoudelijke en soortgelijke elektrische toestellen - Deel 2-65: Bijzondere eisen voor luchtreinigingstoestellen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-65:2003/A11:2012 en

€ 26.38

NEN-EN-IEC 60335-2-67:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-67: Bijzondere eisen voor vloerbehandelingstoestellen en vloerreinigingstoestellen, voor industrieel- en bedrijfsgebruik

This clause of Part 1 is replaced by the following. This International Standard deals with the safety of powered floor treatment machines intended for commercial indoor or outdoor use for the following applications: - scrubbing, - wet or dry pick-up, - polishing and dry buffering, - application of wax, sealing products and powder based detergents, - shampooing, - stripping, grinding and scarifying of floors with an artificial surface. Their cleaning motion is more lateral or periodic than linear. They are not equipped with a traction drive. The following power systems are covered: - internal combustion engines, - mains powered motors up to a rated voltage of 250 V for single-phase appliances and 480 V for other appliances, - battery-powered motors. Battery powered machines may be equipped with a built-in battery charger. This standard does not apply to - vacuum cleaners and water-suction cleaning appliances for household use (IEC 60335-2-2); - floor treatment appliances for household use according to IEC 60335-2-10; - spray extraction machines for commercial use (IEC 60335-2-68); - wet and dry vacuum cleaners, including power brush, for commercial use (IEC 60335-2-69); - floor treatment machines with or without traction drive, for commercial use, according to IEC 60335-2-72; - hand-held and transportable motor-operated electric tools (IEC 60745 series, IEC 61029 series); - machines designed for use in corrosive or explosive environments (dust, vapour or gas); - machines designed for picking up hazardous dusts (as defined in IEC 60335-2-69), inflammable substances, or glowing particles; - machines designed for use in vehicles or on board of ships or aircraft.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-67:2012 en

€ 217.37

NEN-EN-IEC 60335-2-68:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-68: Bijzondere eisen voor vernevelingsapparatuur voor industrieel- en bedrijfsgebruik

This clause of Part 1 is replaced by the following. This International Standard deals with the safety of electrical portable, non-self-propelled motor-operated spray extraction machines with or without attachments and with or without electrical heating elements, intended for commercial indoor use. They are not equipped with a traction drive. The following power systems are covered: - mains powered motors up to a rated voltage of 250 V for single-phase appliances and 480 V for other appliances, - battery powered motors. This standard applies to machines in which the pressure of the employed cleaning agent does not exceed 2,5 MPa, and in which the product of the pressure (in MPa) and the flow of cleaning agent (in litres per minute) does not exceed 100, and in which the temperature of the cleaning agent at the spray nozzle outlet does not exceed 85 °C. This standard does not apply to - vacuum cleaners and water-suction cleaning appliances for household use (IEC 60335-2-2); - floor treatment machines for commercial use (IEC 60335-2-67, IEC 60335-2-72); - wet and dry vacuum cleaners, including power brush, for commercial use (IEC 60335-2-69); - hand-held and transportable motor-operated electric tools (IEC 60745 series, IEC 61029 series). - machines designed for use in corrosive or explosive environments (dust, vapour or gas); - machines designed for picking up hazardous dusts (as defined in IEC 60335-2-69), inflammable substances, or glowing particles; - machines designed to handle hazardous solvents, such as flammable or explosive liquids.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-68:2012 en

€ 181.14

NEN-EN-IEC 60335-2-69:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-69 : Bijzondere eisen voor stof- en waterzuigers, en hiervoor bestemde aangedreven borstels, voor industrieel- en bedrijfsgebruik

This clause of Part 1 is replaced by the following. This International Standard deals with the safety of electrical motor-operated vacuum cleaners, including back-pack vacuum cleaners, and dust extractors, for wet suction, dry suction, or wet and dry suction, intended for commercial indoor or outdoor use with or without attachments. It also deals with the safety of centrally-sited vacuum cleaners, excluding the installation of the system. They are not equipped with a traction drive. The following power systems are covered: - mains powered motors up to a rated voltage of 250 V for single-phase appliances and 480 V for other appliances, - battery powered motors. This standard also applies to machines handling hazardous dust, such as asbestos. This standard does not apply to - vacuum cleaners and water-suction cleaning appliances for household use (IEC 60335-2-2); - floor treatment machines for commercial use (IEC 60335-2-67, IEC 60335-2-72); - spray extraction machines for commercial use (IEC 60335-2-68); - hand-held mains-operated electrical garden blowers, vacuums and blower vacuums (IEC 60335-2-100); - hand-held and transportable motor-operated electric tools (IEC 60745 series, IEC 61029 series); - appliances for medical purposes (IEC 60601-1); - machines designed for use in corrosive environments; - machines designed for picking up liquids with a flash point below 55 °C; - machines designed for use in explosive environments (dust, vapour or gas), except those designed for use in zone 22.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-69:2012 en

€ 271.71

NEN-EN-IEC 60335-2-72:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-72: Bijzondere eisen voor vloerbehandelingstoestellen, al dan niet met aandrijving, voor commercieel gebruik

This clause of Part 1 is replaced by the following. This International Standard deals with the safety of powered ride-on and powered walkbehind machines intended for commercial indoor or outdoor use for the following applications: - sweeping, - scrubbing, - wet or dry pick-up, - polishing, - application of wax, sealing products and powder based detergents, - shampooing of floors with an artificial surface. Their cleaning motion is more linear than lateral or periodic. They may be equipped with a traction drive system. The following power systems are covered: - internal combustion engines, - mains powered motors up to a rated voltage of 250 V for single-phase appliances and 480 V for other appliances, - battery powered motors. Battery powered machines may be equipped with a built-in battery charger. This standard does not apply to - floor treatment appliances for household use according to IEC 60335-2-10; - floor treatment machines for commercial use according to IEC 60335-2-67; - spray extraction machines for commercial use (IEC 60335-2-68); - wet and dry vacuum cleaners, including power brush, for commercial use (IEC 60335-2-69); - road sweepers.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-72:2012 en

€ 244.54

NEN-EN-IEC 60335-2-79:2012

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-79: Bijzondere eisen voor hogedrukreinigers en stoomreinigers

This clause of Part 1 is replaced by the following. This International Standard deals with the safety of high-pressure cleaners without traction drive, intended for household and commercial indoor or outdoor use, having a rated pressure not less than 2,5 MPa and not exceeding 35 MPa. It also applies to steam cleaners and those parts of hot water high pressure cleaners incorporating a steam stage which have a capacity not exceeding 100 l, a rated pressure not exceeding 2,5 MPa and a product of capacity and rated pressure not exceeding 5 MPa·l. They are not equipped with a traction drive. The following power systems of the drive for the high pressure pump are covered: - mains powered motors up to a rated voltage of 250 V for single-phase machines and 480 V for other machines, - battery powered motors, - internal combustion engines, - hydraulic or pneumatic motors. This standard does not apply to - high pressure water jet machines having a rated pressure exceeding 35 MPa.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-79:2012 en

€ 271.71

NEN-EN-IEC 60335-2-89:2010

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-89: Bijzondere eisen voor commerciële diepvriestoestellen met ingebouwde of gescheiden opgestelde koeleenheden

This clause of Part 1 is replaced by the following. This International Standard specifies safety requirements for electrically operated commercial refrigerating appliances that have an incorporated compressor or that are supplied in two units for assembly as a single appliance in accordance with the manufacturer's instructions (split system).

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-89:2010 en

€ 217.37

NEN-EN-IEC 60335-2-95:2015

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-95: Bijzondere eisen voor aandrijfmechanismen voor verticaal bewegende garagedeuren voor woonhuizen

NEN-EN-IEC 60335-2-95 deals with the safety of electric drives for garage doors for residential use that open and close in a vertical direction, the rated voltage of the drives being not more than 250 V for single-phase appliances and 480 V for other appliances. It also covers the hazards associated with the movement of these electrically driven garage doors. As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account playing with the appliance by young children, but recognizes that children may be in the vicinity of the garage door

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-95:2015 en

€ 126.80

NEN-EN-IEC 60335-2-95:2015/A1:2015

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-95: Bijzondere eisen voor aandrijfmechanismen voor verticaal bewegende garagedeuren voor woonhuizen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-95:2015/A1:2015 en

€ 9.06

NEN-EN-IEC 60335-2-97:2007

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-97: Bijzondere eisen voor aandrijfmechanismen van rolluiken, zonneschermen, jaloezieën en soortgelijke uitrusting

Deals with the safety of electric drives for rolling equipment such as shutters, blinds and awnings, intended for household and similar purposes, their rated voltage being more than 250 V for single-phase appliances and 480 V for other appliances. Examples of rolling equipment that can be driven are awnings; blinds; grilles; projection screens; shutters for doors and windows. Drives for equipment with a spring-controlled driven part, such as a folding arm awning, are also within the scope of this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-97:2007 en

€ 72.46

NEN-EN-IEC 60335-2-97:2007/A12:2015

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-97: Bijzondere eisen voor aandrijfmechanismen van rolluiken, zonneschermen, jaloezieën en soortgelijke uitrusting

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-97:2007/A12:2015 en

€ 34.66

NEN-EN-IEC 60335-2-103:2015

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-103: Bijzondere eisen voor poorten, deuren en ramen

NEN-EN-IEC 60335-2-103 deals with the safety of electric drives for horizontally and vertically moving gates, doors and windows for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances. It also covers the hazards associated with the movement of the driven part. Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, offices, hotels, restaurants, hospitals, in industry and on farms, are within the scope of this standard. Requirements for drives for doors that may be used in emergency routes and exits are given in Annex AA.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-103:2015 en

€ 181.14

Hefmachines**NEN-EN 280:2013+A1:2015**

Hoogwerkers - Ontwerpberkeningen - Stabiliteitscriteria - Constructie - Veiligheid - Inspecties en beproevingen

NEN-EN 280+A1 specifies safety requirements and measures for all types and sizes of Mobile Elevating Work Platform (MEWP, see 3.1) intended to move persons to working positions where they are carrying out work from the work platform (WP) with the intention that persons are getting on and off the work platform only at access positions at ground level or on the chassis. This European Standard is applicable to the structural design calculations and stability criteria, construction, safety examinations and tests before MEWPs are first put into service. It identifies the hazards arising from the use of MEWPs and describes methods for the elimination or reduction of these hazards. It does not cover the hazards arising from: a) use in potentially explosive atmospheres; b) electromagnetic incompatibility; c) work from the platform on external live electric systems; d) use of compressed gases for load bearing components; e) getting on and off the work platform at changing levels; f) specific applications (e.g. railway, ships) covered by National or local regulations. 1.3 This European Standard does not apply to: a) machinery serving fixed landings (see e.g. EN 81-1 and EN 81-2, EN 12159); b) fire-fighting and fire rescue appliances (see e.g. EN 1777); c) unguided work cages suspended from lifting appliances (see e.g. EN 1808); d) elevating operator position on rail dependent storage and retrieval equipment (see EN 528); e) tail lifts (see EN 1756-1 and EN 1756-2); f) mast climbing work platforms (see EN 1495); g) fairground equipment; h) lifting tables (see EN 1570-1); i) aircraft ground support equipment (see e.g. EN 1915-1 and EN 1915-2); j) elevating operator positions on industrial trucks (see EN 1726-2).

Type C 2006/42/EG Geverifieerd

NEN-EN 280:2013+A1:2015 en

€ 110.00

NEN-EN 1398:2009

Laadbruggen - Veiligheidseisen

This European Standard specifies the safety requirements for design, construction, installation, maintenance and testing of dock levellers and for safety components on dock levellers. With the exception of: a) dock levellers for marine and aircraft applications; b) lifting tables; c) vehicle mounted tail lifts. This European Standard is applicable to dock levellers which are used by persons and/or manual or power driven transport equipment (e.g. forklift trucks) as traffic paths between goods vehicles, both road vehicles and rail wagons, and parts of buildings such as loading docks. This standard does not deal with other bridging devices not shown in Figure 1. This European Standard specifies requirements in order to protect persons and objects against accidents and health problems and damage during use and operation of dock levellers. Persons to protect are: a) operators and users; b) maintaining and inspecting personnel; c) persons near the dock leveller. Objects to be protected are: d) goods on dock levellers; e) transport equipment on dock levellers. The significant hazards of dock levellers are listed in Clause 4. These hazards have been identified by risk assessment according to EN ISO 12100-2 and require actions to avoid the hazard, or to reduce the risk, which are covered in Clause 5. The safety requirements are based on the assumption that the dock levellers are regularly maintained by competent persons to the instructions of the manufacturer and that the operating person has been instructed in the use of the dock leveller. This European Standard is not applicable to dock levellers which are manufactured before the date of its publication as EN. This European Standard deals with all significant hazards, hazardous situations and events relevant to dock Levellers, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 1398:2009 en

€ 61.30

NEN-EN 1493:2010

Hefbruggen voor voertuigen

NEN-EN 1493 is van toepassing op stationaire, verrijdbare en verplaatsbare hefbruggen voor voertuigen, die niet zijn bedoeld voor het heffen van personen maar die zijn ontworpen om voertuigen in hun geheel op te heffen, om de voertuigen te onderzoeken en hieraan of hieronder te werken terwijl ze in opgeheven stand staan. De hefbrug voor voertuigen mag bestaan uit een of meer hefeenheden. Energietoevoer naar de hefbrug voor voertuigen vanuit inwendige verbrandingsmotoren wordt niet behandeld. De vloer of bodem die een in gebruik zijnde hefbrug voor voertuigen ondersteunt, wordt verondersteld horizontaal te zijn.

Type C 2006/42/EG Geverifieerd

NEN-EN 1493:2010 nl

€ 107.50

NEN-EN 1493:2010 en

€ 86.00

NEN-EN 1494:2001+A1:2008**Verrijdbare of verplaatsbare krikken en vijzels, en bijbehorende hefinrichtingen**

This European Standard specifies technical safety requirements and measures for mobile or movable jacks (see 3.6) and associated lifting equipment. This European Standard deals with all significant hazards pertinent to mobile or movable jacks and associated lifting equipment when they are used as intended and under the conditions foreseen by the manufacturer. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. This standard applies to lifting equipment (see 3.1) which are mobile or movable and designed to operate under the load, whether operated singularly or in multiples to partially or totally raise and lower loads or vehicles at one or more lifting points (excluding the lifting of persons) where working under the raised load is not permitted unless additional means of securing the load in position are in place. This standard does not establish additional requirements for - power drive by an internal combustion machine; - stability of the mobile or movable jacks and associated lifting equipment; - operation in severe conditions (e.g. extreme climates, freezer application, strong magnetic fields); - operation subject to special rules (e.g. potentially explosive atmospheres, mines); - supply by electrical networks where the tolerances in voltage, frequency etc. differ from those in the public supplies; - static electric problems; - handling of loads, the nature of which could lead to dangerous situations (e.g. molten metal, acids, radiating materials, especially brittle loads); - hazards occurring during producing and decommissioning; - hazards occurring when using the lifting equipment on public roads; - wind pressure in and out of use; - direct contact with foodstuffs; - operation on sea ships. This standard applies e.g. to the following lifting equipment - mechanical jacks with or without claw; - hydraulic jacks with or without claw and with or without integrated pump, e. g. hydraulic trolley jacks, hydraulic transmission jacks, hydraulic pit jacks; - pneumatic jacks. This standard does not apply to a) jacks or stabilizers which are permanently fixed to a trailer or a container to support a trailer or container without the tractor-unit; b) hydraulic cylinders which are permanently fixed to the vehicle for tipping and/or tilting parts of it; c) support stands with the possibility for changing the lift height only without the load; d) hydraulic lifting equipment working with a maximum pressure exceeding 500 bar and where pump and cylinder are not integrated parts of the same equipment; e) jacks that are delivered with road vehicles for helping when a break-down occurs (including delivery of original spare parts).

Type C 2006/42/EG Geverifieerd

NEN-EN 1494:2001+A1:2008 en

€ 74.30

NEN-EN 1495:1997+A2:2009**Hefplateaus - Hefsteigers**

This standard specifies the special safety requirements for Mast Climbing Work Platforms (MCWP) which are temporarily installed and are manually or power operated and which are designed to be used by one or more persons from which to carry out work. The vertical moving components (work platform) are also used to move those same persons and their equipment and materials to and from a single boarding point. These restrictions differentiate MCWPs from Builder's hoists. The standard can also be used for permanently installed MCWP. This standard is applicable to work platforms elevated by rack and pinion and guided by and moving along their supporting masts, where the masts may or may not require lateral restraint from separate supporting structures. This standard is applicable to any combination of the following alternatives: One or more masts; Mast tied or untied; Mast of fixed or variable length; Masts vertical or inclined between 0° and 30° to the vertical; Masts which are standing or hanging; Movable or static base (chassis, or base frame); Manually or power operated elevation; Towed or self powered ground travel on site, excluding road traffic regulation requirements; Driven using electric, pneumatic or hydraulic motors. This standard identifies the hazards arising during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards and for the use of safe working practices.

Type C 2006/42/EG Geverifieerd

NEN-EN 1495:1997+A2:2009 en

€ 98.50

NEN-EN 1495:1997+A2:2009/C11:2010**Hefplateaus - Hefsteigers**

Type C 2006/42/EG Geverifieerd

NEN-EN 1495:1997+A2:2009/C11:2010 en

€ 0.00

NEN-EN 1570-1:2011+A1:2014**Veiligheidseisen voor heftafels - Deel 1: Heftafels die maximaal twee vaste stopplaatsen bedienen**

NEN-EN 1570-1+A1 specifies the safety requirements for industrial lifting tables for raising and/or lowering goods and the operator(s): - where the lifting table does not pass a fixed landing; - serving not more than 2 fixed landings. This European Standard deals with all significant hazards pertinent to lifting tables when they are used as intended by the operating instructions and under the conditions foreseen (including foreseeable misuse) with the operating instructions (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce the risks arising from the significant hazards. Both power operated and manually operated lifting tables are included whether stationary or mobile. This European Standard does not apply to the following equipment: - lifting tables, serving more than 2 fixed landings of a building, for lifting goods with a vertical travel speed not exceeding 0,15 m/s (EN 1570-2); - lifting tables, serving more than 2 fixed landings of a building for lifting operators, with a vertical travel speed not exceeding 0,15 m/s (EN 1570-3); - lifting tables carrying operators and installed in full enclosures (EN 1570-3); - permanently and temporarily installed lifting tables, serving specific levels of a building for lifting operators, with a vertical travel speed exceeding 0,15 m/s (EN 81-1 and EN 81-2); - lifting tables with flat or toothed belts lifting systems for the carrying of operators; - lifting tables whose vertical travel speed exceeds 0,15 m/s (unless safe by position and non person carrying); - power operated lifting platforms for persons with impaired mobility (EN 81-41); - mobile lifting tables for airport ground support equipment (EN 1915-2 and EN 12312-1); - lifting tables which are designed as part of a lift according to Directive (95/16/EC); - lifting tables used on ships; - mobile elevating work platforms (EN 280); - static elevating work platforms; - vehicle lifts for maintenance (EN 1493); - mobile lifting tables used for fire fighting (EN 1777); - mobile lifting tables used as fork lift trucks and order pickers; - mobile lifting tables with a horizontal travelling speed of more than 1,6 m/s; - rail dependent storage and retrieval equipment (EN 528); - theatre stage lifts intended to move performers; - scissor lift pallet trucks (EN ISO 3691-5); - suspended lifting tables; - lifting tables operated by pushing chains. This standard does not establish the additional requirements for: - electromagnetic compatibility; - operation in severe conditions (e.g. extreme climates, freezer applications, strong magnetic fields); - operation subject to special rules (e.g. potentially explosive atmospheres, mines); - handling of loads, the nature of which could lead to dangerous situations (e.g. molten metal, acids, radiating materials, especially brittle loads); - hazards occurring during construction, transportation and disposal; - equipment installed on the load platform or replacing it; - integration into systems or other machines, control from more than two control stations, etc.; - cable-less controls; - lifting tables where the hydraulic pressure is derived directly from gas pressure; - the power supply to the lifting table by internal combustion engine.

Type C 2006/42/EG Geverifieerd

NEN-EN 1570-1:2011+A1:2014 en

€ 86.00

NEN-EN 1756-1:2001+A1:2008

Laadkleppen - Hefplateaus voor montage aan voertuigen op wielen - Veiligheidseisen - Deel 1: Laadkleppen voor goederen

Deze Europese norm specificeert veiligheidseisen voor het ontwerp van laadkleppen zoals gedefinieerd in 3.1 voor montage aan wielvoertuigen voor goederen. Deze norm specificeert ook de verificatie van dergelijke laadkleppen en de veiligheidsinformatie die moet worden geleverd voor hun gebruik. Deze Europese norm behandelt de technische eisen om de in hoofdstuk 4 gegeven gevaren te minimaliseren die kunnen optreden tijdens het gebruik van laadkleppen indien dit gebeurt volgens de specificaties van de fabrikant of zijn gevormde vertegenwoordiger.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1756-1:2001+A1:2008 nl	€ 107.50
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NEN-EN 1756-1:2001+A1:2008 en	€ 98.50
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NEN-EN 1756-2:2004+A1:2009

Laadkleppen - Hefplateaus voor montage aan voertuigen op wielen - Veiligheidseisen - Deel 2: Hefplateaus voor passagiers

Part 2 of standard EN 1756 specifies safety requirements for design of tail lifts as defined in 3.1 for mounting on wheeled passenger vehicles. Vehicles for the loading of disabled passengers onto aircraft and ships are included within the scope of the standard (although dock-mounted lifts are excluded). It also specifies the verification of such tail lifts and the safety information that shall be provided for their use. This document deals with the technical requirements to minimise the hazards listed in clause 4 which can arise during the operation of tail lifts when carried out in accordance with the specifications as intended by the manufacturer or his authorised representative. It applies to passenger tail lifts: used for the purpose of embarking and/or disembarking passengers to and from such vehicles; intended to be fitted, temporarily or permanently, either inside or on the front, side or rear of the wheeled vehicle; driven either by hand or by electric power; equipped with a platform to support passengers who may be pedestrians or riders in wheelchairs and may be accompanied by an attendant. Embarking and/or disembarking operations include the use of a tail lift to lift and/or lower passengers, and if specifically approved by the manufacturer, for use as a link bridge. The standard covers the significant hazards which could occur when a tail lift is used as intended and under the conditions foreseen by the manufacturer. A list of significant hazards is given in clause 4. This document is not applicable to tail lifts which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1756-2:2004+A1:2009 en	€ 86.00
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NEN-EN 1808:2015

Veiligheidseisen voor hangsteigers - Ontwerpberkeningen, stabiliteitscriteria en constructie - Onderzoeken en beproevingen

NEN-EN 1808 specifies the requirements, test methods, marking and information to be provided by the manufacturer/supplier for suspended access equipment (SAE). It is applicable to both permanent and temporary equipment which can be powered or hand operated and which are defined in Clause 3. The requirements of this standard include the rails, tracks and other support systems on which SAE depend for their integrity and safety as well as taking into account all associated loads and fixings to the building structure. This document is not applicable to SAE which is manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1808:2015 en	€ 122.00
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NEN-EN 14010:2004+A1:2009

Veiligheid van machines - Mechanisch aangedreven parkeerinrichtingen voor motorvoertuigen - Veiligheids- en EMC-eisen voor ontwerp, vervaardiging, opstelling en inbedrijfstellung

This European Standard deals with the technical requirements to minimise the risks due to the hazards listed in clause 4, which can arise during installation, operation and maintenance of permanently installed equipment and systems for the power driven parking of motor vehicles, as defined in 3.1 to 3.4 below. Requirements are also given on the provision of information for use, which includes requirements for the drafting of the instructions. Electromagnetic compatibility requirements are also covered. This European Standard applies to equipment and systems for the power driven parking of motor vehicles which have four wheels, are within a maximum size envelope of 5,30 m long, by 2,30 m wide, by 2,20 m high and have a mass less than 2500 kg. The equipment can be manually or automatically controlled.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14010:2004+A1:2009 en	€ 86.00
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Hijsgereedschap**NEN-EN 818-1:1996+A1:2008**

Kortschalmige kettingen voor hijsdoeleinden - Veiligheid - Deel 1: Algemene acceptatievoorwaarden

Specifies the general conditions of acceptance related to safety for electrically welded round steel short link chain for lifting purposes. It includes: a) medium tolerance chain for use in chain slings and for general lifting service and; b) fine tolerance chain for use with hoists and other similar lifting appliances.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 818-1:1996+A1:2008 en	€ 49.30
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NEN-EN 818-2:1996+A1:2008

Kortschalmige kettingen voor hajsdoeleinden - Veiligheid - Deel 2: Kettingen met middelmatige tolerantie voor kettingsamenstellen - Klasse 8

This part of EN 818 specifies the requirements related to safety for short link chains, grade 8, of medium tolerance for use in chain slings according to !EN 818-4:1996+A1" and for general lifting purposes." They are electrically welded round steel short link chains, heat treated and tested and complying with the general conditions of acceptance in !EN 818-1:1996+A1". The range of nominal sizes of chain covered by this Part of EN 818 is from 4 mm to 45 mm. The hazards covered by this Part of EN 818 are identified in clause 4. The bases for calculation of tabulated values for dimensions, working load limits and mechanical properties are given in annex A. Annex B gives information on weight/metre of chain. Annex C gives an example of a designation system for chains.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 818-2:1996+A1:2008 en

€ 49.30

NEN-EN 818-3:1999+A1:2008

Kortschalmige kettingen voor hajsdoeleinden - Veiligheid - Deel 3: Kettingen met middelmatige tolerantie voor kettingsamenstellen - Kwaliteitsklasse 4

Specificeert veiligheidseisen voor kortschalmige hjskettingen, kwaliteitsklasse 4, met middelmatige tolerantie voor toepassing in kettingsamenstellen en voor algemene hjsdoeleiden. De norm is van toepassing op elektrisch gelaste rondstalen kortschalmige kettingen, die voldoen aan EN 818-1 en die zijn bedoeld om voorwerpen, materialen of goederen te hjsen. Dit deel van EN 818 geldt voor nominale kettingmaten van 7 mm tot en met 45 mm.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 818-3:1999+A1:2008 en

€ 49.30

NEN-EN 818-4:1996+A1:2008

Kortschalmige kettingen voor hajsdoeleinden - Veiligheid - Deel 4: Kettingsamenstellen - Kwaliteitsklasse 8

Specifies the requirements related to safety, methods of rating and testing of single-, two-, three-, four-leg and endless chain slings assembled by : a) mechanical joining devices; b) welding using short link grade 8 medium tolerance lifting chain conforming to EN 818-2 together with the appropriate range of components of the same grade.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 818-4:1996+A1:2008 en

€ 61.30

NEN-EN 818-5:1999+A1:2008

Kortschalmige kettingen voor hajsdoeleinden - Veiligheid - Deel 5: Kettingsamenstellen - Kwaliteitsklasse 4

Specificeert de eisen die betrekking hebben op de veiligheid, op de methodes voor de bepaling van de werklasten en de beproeving van de kettingsamenstellen met één, twee, drie of vier parten, alsmede eindloze kettingsamenstellen, die aaneengeschakeld zijn door middel van lassen, waarbij kortschalmige hjskettingen van kwaliteitsklasse 4 met middelmatige tolerantie volgens EN 818-3 worden gebruikt, samen met de bijbehorende onderdelen van dezelfde kwaliteitsklasse volgens prEN 1677-5 en 6. Deze kettingsamenstellen zijn bedoeld om voorwerpen, materialen of goederen te hjsen.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 818-5:1999+A1:2008 en

€ 61.30

NEN-EN 818-6:2000+A1:2008

Kortschalmige kettingen voor hajsdoeleinden - Veiligheid - Deel 6: Kettingsamenstellen - Specificatie voor informatie voor gebruik en onderhoud te verstrekken door de fabrikant

Specifies the information on use and maintenance to be provided by the manufacturer with chain slings conforming to EN 818-4 and EN 818-5.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 818-6:2000+A1:2008 en

€ 49.30

NEN-EN 818-7:2002+A1:2008

Kortschalmige kettingen voor hajsdoeleinden - Veiligheid - Deel 7: Kettingen met een kleine tolerantie voor takels, Kwaliteitsklasse T (type T, DAT en DT)

This Part of EN 818 specifies the information on use and maintenance to be provided by the manufacturer with chain slings conforming to !EN 818-4:1996+A1" and !EN 818-5:1999+A1". Annex A is informative, and provides some of the detailed information for use and maintenance which may be appropriate. The hazards covered by this Part of EN 818 are identified in clause 4. This European Standard specifies the requirements related to safety for hoist chain, Grade T (type T quenched and tempered and types DAT and DT case hardened), for use in serial chain hoists manual and power driven. Type DAT and type DT hoist chains possess surface hardnesses greater than core hardness and are used for power driven chain hoists to offer greater resistance to wear. Type DT hoist chain differs from DAT hoist chain in having higher surface hardness and/or greater case depth to optimise wear resistance. The standard is applicable to electrically welded round steel short link hoist chains conforming to EN 818-1. The range of nominal size of hoist chains covered by this European Standard is from 4 mm to 22 mm. The hazards covered by this European Standard are identified in clause 4.e.4.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 818-7:2002+A1:2008 en

€ 61.30

NEN-EN 1492-1:2000+A1:2008**Hijsbanden - Veiligheid - Deel 1: Vlakke geweven hijsbanden gemaakt van kunststofvezels, voor algemeen gebruik**

This European Standard specifies the requirements related to safety, including methods of rating and testing single-, two-, three-, four-leg and endless sewn flat woven webbing slings, with or without fittings, made of polyamide, polyester and polypropylene man-made fibre webbing in the width range of 25 mm to 450 mm inclusive. The flat woven webbing slings covered by this Part of EN 1492 are intended for general purpose lifting operations, i.e. when used for lifting objects, materials or goods which require no deviations from the requirements, safety factors or working load limits specified. Lifting operations not covered by this standard would include the lifting of persons, potentially dangerous materials such as molten metal and acids, glass sheets, fissile materials, nuclear reactors and where special conditions apply. Flat woven webbing slings conforming to this European Standard are suitable for use and storage in the following temperature ranges: a) polyester and polyamide -40°C to 100°C, b) polypropylene -40°C to 80°C . This European Standard deals with the technical requirements to minimize the hazards listed in clause 4 which can arise during the use of flat woven webbing slings when carried out in accordance with the instructions and specifications given by the manufacturer or authorized representative.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1492-1:2000+A1:2008 en

€ 61.30

NEN-EN 1492-2:2000+A1:2008**Hijsbanden - Veiligheid - Deel 2: Ronde hijsbanden gemaakt van kunststofvezels voor algemeen gebruik**

This European Standard specifies the requirements related to safety, including methods of rating and testing roundslings up to 40 tonnes working load limit (in straight lift) and two-, three-, and four-leg roundsling assemblies, with or without fittings, made of polyamide, polyester and polypropylene. The roundslings covered by this Part of EN 1492 are intended for general purpose lifting operations, i.e. when used for lifting objects, materials or goods which require no deviations from the requirements, safety factors or WLL's specified. Lifting operations not covered by this standard include the lifting of persons, potentially dangerous materials such as molten metal and acids, glass sheets, fissile materials, nuclear reactors and where special conditions apply. Roundslings conforming to this European Standard are suitable for use and storage in the following temperature ranges: a) polyester and polyamide: -40°C to 100°C, b) polypropylene: -40°C to 80°C. This European Standard deals with the technical requirements to minimize the hazards listed in clause 4 which can arise during the use of roundslings when carried out in accordance with the instructions and specifications given by the manufacturer or authorized representative.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1492-2:2000+A1:2008 en

€ 61.30

NEN-EN 1492-4:2004+A1:2008**Hijsbanden - Veiligheid - Deel 4: Hijsgereedschappen voor algemeen gebruik gemaakt van touwen van natuurlijke en kunststofvezels**

This European Standard specifies the requirements related to safety, including methods of rating and testing single-, two-, three-, four-leg and endless slings, with or without fittings, made of sisal, hemp and manila 3- and 4-strand laid construction natural fibre ropes and polyamide, polyester and polypropylene 3- and 4-strand laid construction and 8-strand plaited construction man-made fibre ropes having a reference number in the range of 16 to 48 inclusive. The fibre rope slings covered by this part of EN 1492 are intended for general purpose lifting operations, i.e. when used for lifting objects, materials or goods which require no deviations from the requirements, safety factors or working load limits specified. Lifting operations not covered by this standard would include the lifting of persons, potentially dangerous materials such as molten metal and acids, glass sheets, fissile materials, nuclear reactors and where special conditions apply. Fibre rope slings conforming to this European Standard are suitable for use and storage in the following temperature ranges: a) polyester and polyamide -40°C to 100°C, b) manila, sisal, hemp and polypropylene -40°C to 80°C. This European Standard deals with the technical requirements to minimize the hazards listed in clause 4 which can arise during the use of fibre rope slings when carried out in accordance with the instructions and specification given by the manufacturer or authorized representative.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1492-4:2004+A1:2008 en

€ 74.30

NEN-EN 1677-1:2000+A1:2008**Onderdelen voor hijsgereedschappen - Veiligheid - Deel 1: Gesmede stalen onderdelen - Kwaliteitsklasse 8**

This Part of EN 1677 specifies general requirements for forged steel components of grade 8 up to 63 t WLL, mainly for use in: - chain slings according to EN 818-4; - steel wire rope slings according to prEN 13414-1:1999; - textile slings according to EN 1492-1:2000, EN 1492-2:2000 intended for lifting objects, materials or goods. This standard does not apply to hand forged components and welded links, nor to other welded components. The hazards covered by this Part of EN 1677 are identified in clause 4. Annex A is informative, and gives the bases for calculation of tabulated values of mechanical properties. Annex B is informative, and gives an example of a designation system for forged steel lifting components of grade 8. Annexes ZA and ZB give the relationship with EU-Directives.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1677-1:2000+A1:2008 en

€ 49.30

NEN-EN 1677-2:2000+A1:2008**Onderdelen voor hijsgereedschappen - Veiligheid - Deel 2: Gesmede stalen haken met haakklep, kwaliteitsklasse 8**

This Part of EN 1677 specifies requirements for forged steel lifting hooks with latch of grade 8 having eye or clevis and pin up to 63 t WLL, mainly for use in: chain slings according to EN 818-4 steel wire rope slings according to prEN 13414-1:1999 textile slings according to prEN 1492-1:2000, prEN 1492-2:2000 intended for lifting objects, materials or goods. This Part of EN 1677 does not apply to hand forged hooks. The hazards covered by this Part of EN 1677 are identified in clause 4. Annex A is informative, and gives the bases for calculation of hook dimensions. Annex B is informative, and gives an example of a designation system for hooks of grade 8. Annexes ZA and ZB give the relationship with EU-Directives.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1677-2:2000+A1:2008 en

€ 49.30

NEN-EN 1677-3:2001+A1:2008

Onderdelen voor hijsgereedschappen - Veiligheid - Deel 3: Gesmede stalen zelfborgende haken - Kwaliteitsklasse 8

This European Standard specifies requirements for forged steel self-locking lifting hooks of Grade 8 having eye or clevis and pin up to 21,2 t working load limit (WLL), mainly for use in: - chain slings according to EN 818-4 - steel wire rope slings according to prEN 13414-1 - textile slings according to EN 1492-1, EN 1492-2 intended for lifting objects, materials or goods. The hazards covered by this part of EN 1677 are identified in clause 4. Annex A gives the bases for calculation of hook dimensions. Annex B gives an example of a designation systems for hooks of Grade 8.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1677-3:2001+A1:2008 en

€ 49.30

NEN-EN 1677-4:2000+A1:2008

Onderdelen voor hijsgereedschappen - Veiligheid - Deel 4: Schalmen - Kwaliteitsklasse 8

This part of EN 1677 specifies requirements for forged or welded steel master links, intermediate master links, master link assemblies and lower terminal links of grade 8 up to 132 t WLL, mainly for use in: - chain slings according to EN 818-4 - steel wire rope slings - textile slings according to EN 1492-1:2000, EN 1492-2:2000. intended for lifting objects, materials or goods. This Part of EN 1677 does not apply to hand forged links. The hazards covered by this Part of EN 1677 are identified in clause 4. Annexes ZA and ZB give the relationship with EU-Directives.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1677-4:2000+A1:2008 en

€ 49.30

NEN-EN 1677-5:2001+A1:2008

Onderdelen voor hijsgereedschappen - Veiligheid - Deel 5: Gesmede stalen haken met haakklep - Kwaliteitsklasse 4

This Part of EN 1677 specifies requirements for forged steel lifting hooks of grade 4 having latch and eye up to 31,5 t WLL, mainly for use in: - chain slings according to EN 818-5 - steel wire rope slings according to prEN 13414-1:1998 - textile slings according to EN 1492-1, EN 1492-2, intended for lifting objects, materials or goods. This Part of EN 1677 does not apply to hand forged hooks. The hazards covered by this Part of EN 1677 are identified in clause 4. Annex A gives the bases for calculation of hook dimensions. Annex B gives an example of a designation system for hooks of grade 4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1677-5:2001+A1:2008 en

€ 49.30

NEN-EN 1677-6:2001+A1:2008

Onderdelen voor hijsgereedschappen - Veiligheid - Deel 6: Schalmen - Kwaliteitsklasse 4

This part of EN 1677 specifies requirements for welded steel master links, intermediate master links, master link assemblies and lower terminal links of grade 4 up to 67 t WLL, mainly for use in: - chain slings according to EN 818-5 - steel wire rope slings according to prEN 13414-1:1998 - textile slings according to EN 1492-1, EN 1492-2, intended for lifting objects, materials or goods. The hazards covered by this Part of EN 1677 are identified in clause 4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1677-6:2001+A1:2008 en

€ 49.30

NEN-EN-ISO 3266:2010

Gesmede stalen oogbouten van kwaliteitsklasse 4 voor algemene hijsdoeleinden

This International Standard specifies the general characteristics, performance and critical dimensions necessary for interchangeability and compatibility with other components, of forged steel eyebolts grade 4 for general lifting purposes. These eyebolts can be used for axial and inclined loading. This International Standard specifies the dimensions of the eyes of eyebolts permitting direct connection with shackles of the same working load limit as those defined in ISO 2415. These dimensions also allow designs with a larger eye which can permit direct connection with sling hooks of similar working load limit. This International Standard covers all significant hazards, hazardous situations and events relevant to eyebolts grade 4 as defined in Clause 4. This International Standard is applicable to eyebolts grade 4 for use in the temperature range of -20 °C to 200 °C.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3266:2010 en

€ 79.70

NEN-EN-ISO 3266:2010/A1:2015

Gesmede stalen oogbouten van kwaliteitsklasse 4 voor algemene hijsdoeleinden

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3266:2010/A1:2015 en

€ 14.49

NEN-EN 12385-1:2002+A1:2008

Staalkabels - Veiligheid - Deel 1: Algemene eisen

This Part specifies the general requirements for the manufacture and testing of steel wire rope, whose particular requirements are specified in the other Parts. Annex A gives the type testing regimes for rope produced in series. Annex B gives the testing requirements for wires taken from the rope when specified in other Parts of this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12385-1:2002+A1:2008 en

€ 49.30

NEN-EN 12385-2:2003+A1:2008

Staalkabels - Veiligheid - Deel 2: Definities, aanduiding en classificatie

This part of this European Standard defines terms, specifies designations and classifies steel wire ropes and is for use in conjunction with all other parts of this standard. It applies to ropes which have been manufactured after the date of issue of the standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12385-2:2003+A1:2008 en

€ 86.00

NEN-EN 12385-3:2004+A1:2008

Staalkabels - Veiligheid - Deel 3: Informatie voor gebruik en onderhoud

This document specifies the type of information for use and maintenance of steel wire ropes to be provided by the rope manufacturer or to be included in the manufacturer's handbook that accompanies a machine, piece of equipment or installation of which the steel wire rope forms a part. The particular hazards covered by this document are identified in clause 4. For steel wire ropes conforming to Parts 8 and 9 used on cableway installations designed to carry persons, additional information for use and maintenance is given in prEN 12927-7. For steel wire rope slings, specific information on use and maintenance is given in EN 13414-2. This document is not applicable to steel wire ropes manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12385-3:2004+A1:2008 en

€ 61.30

NEN-EN 12385-4:2002+A1:2008

Staalkabels - Veiligheid - Deel 4: Strengenkabels voor algemene hijsdoeleinden

This Part of this European Standard specifies the particular materials, manufacturing and testing requirements for ropes for general lifting applications. The particular hazards covered by this Part are identified in Clause 4. This Part of this European Standard does not establish requirements for information for use other than those given in clause 7 of Part 1. Neither does it cover the requirements for ropes fitted with terminations. Minimum breaking force values for the more common classes, sizes and grades of rope are provided in tables 5 to 17.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12385-4:2002+A1:2008 en

€ 61.30

NEN-EN 12385-10:2004+A1:2008

Staalkabels - Veiligheid - Deel 10: Spiraalkabels voor algemene toepassing in constructies

This Part of this European Standard specifies the additional materials, manufacturing and testing requirements to those given in Part 1 for spiral ropes incorporating zinc or zinc alloy coated wires for general structural applications. This standard deals with all significant hazards, hazardous situations and events relevant to spiral ropes for general structural applications, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see clause 4 of EN 12385-1:2002). This standard applies to spiral ropes for general structural applications which are manufactured after the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12385-10:2004+A1:2008 en

€ 61.30

NEN-EN 13411-1:2002+A1:2008

Eindverbindingen voor staalkabels - Veiligheid - Deel 1: Kousen voor staalkabelsamenstellen

This European Standard specifies the minimum requirements for non welded general purpose steel thimbles produced from plate having dimensions in accordance with Figure 1. The thimbles are intended to be used in slings made with six or eight strand steel wire ropes from 8 mm to 60 mm diameter complying with EN 12385-4. Reeling thimbles and solid thimbles are not covered by this standard. The hazards covered by this standard are identified in clause 4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13411-1:2002+A1:2008 en

€ 49.30

NEN-EN 13411-2:2001+A1:2008

Eindverbindingen voor staalkabels - Veiligheid - Deel 2: Splitsen van ogen voor kabelsamenstellen

This standard specifies minimum requirements for the splicing of eye terminations for six or eight strand steel wire ropes of up to 60 mm diameter complying with prEN 12385-4 used for slings to ensure that the spliced eye is strong enough to withstand a force of at least 80 % of the minimum breaking load of the rope. Other hazards covered by this standard are identified in clause 4. Resistance to fatigue loading is not considered to be a significant hazard for slings and is not covered by this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13411-2:2001+A1:2008 en

€ 34.50

NEN-EN 13411-3:2004+A1:2008**Eindverbindingen voor staalkabels - Veiligheid - Deel 3: Persklemmen en aanpersen van persklemmen**

This European Standard deals with the requirements for the ferrule-securing of eyes and endless loops. It also deals with the requirements for ferrules for the ferrule-securing of eyes and endless loops. This European Standard applies to the ferrule-securing of eye terminations formed either by a Flemish eye or turnback eye and covers ferrules made of non alloy carbon steel and aluminium. This European Standard applies to slings and assemblies using steel wire ropes for general lifting applications up to and including 60mm diameter conforming to EN 12385-4, lift ropes conforming to EN 12385-5 and spiral strand ropes conforming to EN 12385-10. Type testing of ferrule-secured systems and manufacturing quality control requirements are also specified. This European standard deals with all significant hazards, hazardous situations and events relevant to this particular steel wire rope termination when used as intended and under conditions of use which are foreseeable by the manufacturer. This standard applies to terminations of steel wire ropes with ferrules and ferrule-securing which are manufactured after the date of this publication.

Type C 2006/42/EG Geverifieerd

NEN-EN 13411-3:2004+A1:2008 en

€ 61.30

NEN-EN 13411-4:2011**Eindverbindingen voor staalkabels - Veiligheid - Deel 4: Ingieten in sokken met metaal en kunsthars**

This European Standard specifies the minimum requirements for the molten metal and resin socketing of steel wire ropes within the scopes of EN 12385-4:2002+A1:2008; EN 12385-5:2002; EN 12385-6:2004; EN 12385-7:2002; EN 12385-8:2002; EN 12385-9:2002 and EN 12385-10:2003+A1:2008. The European Standard is applicable only to those requirements that ensure that the socketing is strong enough to withstand a force of at least 100 % of the minimum breaking force of the rope (i.e. socket termination efficiency factor KT = 1,0). Socketing by the methods and materials described in this standard are for use within the temperature limits given in normative Annex E. This European Standard deals with all significant hazards, hazardous situations and events relevant to metal and resin socket terminations, when they are used as intended and under conditions of misuse which are reasonably foreseeable (see Clause 4). This second edition incorporates both technical and editorial amendments, with the following main changes made with respect to the previous edition: - enhance approved socket dimension criteria negating need for type testing and move data into informative Annex F; - add definition for 'socketting manufacturer'; - re-draft hazards clause; - re-draft standard in accordance with rules of ISO/IEC Directives, Part 2 and CEN Guide 414.

Type C 2006/42/EG Geverifieerd

NEN-EN 13411-4:2011 en

€ 61.30

NEN-EN 13411-5:2003+A1:2008**Eindverbindingen voor staalkabels - Veiligheid - Deel 5: U-bout kabelklemmen**

This European Standard specifies the minimum requirements for U-bolt wire rope grips manufactured from ferrous materials and the safe behaviour of eye terminations secured by U-bolt wire rope grips for use as intended by the manufacturer. Suitable uses include suspending static loads and single use lifting operations which have been assessed by a competent person taking into account appropriate safety factors. U-bolt wire rope grips are not suitable for use with spiral ropes. This standard does not cover U-bolt wire rope grips as the primary securing devices on mine hoists, crane hoists or eye terminations for slings for general lifting service. Examples of grips together with fitting instructions are given in informative annexes A and B. The hazards covered by this standard are identified in clause 4.

Type C 2006/42/EG Geverifieerd

NEN-EN 13411-5:2003+A1:2008 en

€ 49.30

NEN-EN 13411-6:2004+A1:2008**Eindverbindingen voor staalkabels - Veiligheid - Deel 6: Asymmetrische wigklemmen**

This European Standard specifies the minimum requirements, for asymmetrical wedge socket terminations for stranded steel wire ropes. Examples of the construction and sizes of two separate designs of asymmetric wedge sockets are given in informative annexes A and B. The informative annex C gives recommendations for safe use and inspection. This European Standard deals with all significant hazards, hazardous situations and events relevant to asymmetric wedge sockets for terminations for steel wire ropes, when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This standard applies to terminations of steel wire ropes with asymmetrical wedge sockets which are manufactured after the date of its publication. This standard does not cover rope fatigue.

Type C 2006/42/EG Geverifieerd

NEN-EN 13411-6:2004+A1:2008 en

€ 61.30

NEN-EN 13411-7:2006+A1:2008**Eindverbindingen voor staalkabels - Veiligheid - Deel 7: Symmetrische wigklemmen**

This European Standard specifies the minimum requirements for symmetrical wedge socket terminations for stranded steel wire ropes conforming to EN 12385-5 for lifts. This European Standard covers those symmetric wedge sockets intended for use at temperatures between -20 °C and 100 °C. This European Standard only covers those symmetric wedge sockets that have welded socket bodies. An example of the construction and sizes of a symmetric wedge socket is given in informative Annex A. The informative Annex B gives the recommendations for the safe use and inspection of symmetric wedge socket according to Annex A. This European Standard deals with all significant hazards, hazardous situations and events relevant to symmetric wedge sockets for terminations for steel wire ropes, when used as intended and under conditions of misuse which are reasonable foreseeable by the manufacturer. The hazards covered by this European Standard are identified in Clause 4. This European Standard applies to symmetric wedge sockets, which are manufactured after the date of its publication.

Type C 2006/42/EG Geverifieerd

NEN-EN 13411-7:2006+A1:2008 en

€ 49.30

NEN-EN 13411-8:2011

Eindverbindingen voor staalkabels - Veiligheid - Deel 8: Perseindverbindingen en persen

This European Standard specifies the minimum requirements for swage terminals and the securing of such terminals by a swaging process to carbon steel rope conforming to EN 12385-4 and EN 12385-5, spiral strand rope conforming to EN 12385-10 and stainless steel stranded rope. This European Standard is not applicable to spiral rope incorporating full lock wires - see EN 12385-10 -, nor ropes with coverings and /or fillings (see 3.6.3 of EN 12385-2:2002+A1:2008). This European Standard is applicable to swaged terminations that have a terminal efficiency factor, KT, of at least 0,9 and are used as part of a wire rope accessory such as a sling, or wire rope assembly that performs a raising, lowering, hauling or supporting function on lifting machinery. This European Standard is applicable to terminals of the following types that are made of carbon or stainless steel: - open swage socket; - closed swage socket; - swage terminal with thread; - swage terminal end stop. This European Standard deals with all significant hazards, hazardous situations and events relevant to swaged terminations, when used as intended and under conditions of misuse which are reasonably foreseeable (see Clause 4). This European Standard applies to swaged terminations which are manufactured after the date of its publication.

Type C 2006/42/EG Geverifieerd

NEN-EN 13411-8:2011 en

€ 49.30

NEN-EN 13414-1:2003+A2:2008

Staalkabelsamenstellen - Veiligheid - Deel 1: Samenstellen voor algemene hijsdoeleinden

This European Standard specifies the construction requirements, calculation of WLL, verification, certification and marking of steel wire rope slings for general lifting service. It covers single-, two-, three- and four-leg slings, with ferrule-secured or spliced eye terminations and spliced or ferrule-secured endless slings made from 8 mm to 60 mm diameter 6 strand ordinary lay steel wire rope with fibre or steel core and 8 strand ordinary lay steel wire rope with a steel core conforming to EN 12385-4.

Type C 2006/42/EG Geverifieerd

NEN-EN 13414-1:2003+A2:2008 en

€ 49.30

NEN-EN 13414-2:2003+A2:2008

Staalkabelsamenstellen - Veiligheid - Deel 2: Specificatie voor informatie voor gebruik en onderhoud te verstrekken door de fabrikant

This Part of EN 13414 specifies the information on use and maintenance to be provided by the manufacturer of wire rope slings.

Type C 2006/42/EG Geverifieerd

NEN-EN 13414-2:2003+A2:2008 en

€ 49.30

NEN-EN 13414-3:2003+A1:2008

Staalkabelsamenstellen - Veiligheid - Deel 3: Grommers en kabelslagstroppen

This European Standard specifies the construction requirements, calculation of WLL, testing and certification of steel wire rope grommets, cable-laid grommets and cable-laid slings using strand and wire rope conforming to EN 12385-4. The hazards covered by this standard are identified in clause 4. This standard covers ferrule-secured cable-laid slings up to 60mm.

Type C 2006/42/EG Geverifieerd

NEN-EN 13414-3:2003+A1:2008 en

€ 61.30

NEN-EN 13889:2003+A1:2008

Gesmede stalen sluitingen voor algemene hijsdoeleinden - D-sluitingen en harpsluitingen - Kwaliteitsklasse 6 - Veiligheid

This European Standard specifies requirements for forged steel Dee and bow shackles of grade 6 for general lifting purposes in a range of working load limits 0,5 t to 25 t maximum. This standard applies only to those shackles with threaded pins. Annex A gives information on the safe use of shackles, annex B gives information on types of pins, and annex C gives an example of a designation system for forged steel shackles. The hazards covered are identified in clause 4.

Type C 2006/42/EG Geverifieerd

NEN-EN 13889:2003+A1:2008 en

€ 61.30

Hijsmachines (Kranen)

NEN-EN 12077-2:1998+A1:2008

Veiligheid van hijskranen - Eisen voor gezondheid en veiligheid - Deel 2: Begrenzings- en aanwijsinrichtingen

This European Standard specifies general requirements for the application and operating parameters of limiting and indicating devices installed on powered cranes.

Type C 2006/42/EG Geverifieerd

NEN-EN 12077-2:1998+A1:2008 en

€ 49.30

NEN-EN 12644-1:2001+A1:2008**Hijskranen - Informatie voor gebruik en beproeving - Deel 1: Gebruikshandleidingen**

This part of EN 12644 specifies requirements for the presentation and content of instruction handbook(s) supplied by the manufacturer for the use of cranes. This crane standard has been written to be used in conjunction with other crane standards being prepared by CEN/TC 147. The hazards covered by this standard are identified in clause 4. This part of EN 12644 applies to cranes which are manufactured after the date of approval by CEN of this standard. This standard does not cover hazards related to the lifting of persons.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12644-1:2001+A1:2008 en

€ 34.50

NEN-EN 12644-2:2000+A1:2008**Hijskranen - Informatie voor gebruik en beproeving - Deel 2: Merken**

This part of EN 12644 specifies the requirements for markings, signs and warnings for cranes. This crane standard has been written to be used in conjunction with other crane standards being prepared by CEN/TC147. The hazards covered by this standard are identified in clause 4. This part of EN 12644 applies to cranes which are manufactured after the date of approval by CEN of this standard. This standard does not cover hazards related to the lifting of persons.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12644-2:2000+A1:2008 en

€ 49.30

NEN-EN 13000:2010+A1:2014**Kranen - Mobiele kranen**

NEN-EN 13000:2010+A1 is applicable to the design, construction, installation of safety devices, information for use, maintenance and testing of mobile cranes as defined in ISO 4306-2 !deleted text". Examples of mobile crane types are given in Annex A. This European Standard does not apply to: • loader cranes (see EN 12999) • off-shore cranes (see EN 13852-1) • floating cranes (see EN 13852-2) • variable reach truck (see EN 1459) • mobile self-erecting tower cranes • earth-moving machinery used for object handling (see EN 474-series). This standard does not cover hazards related to the lifting of persons.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13000:2010+A1:2014 en

€ 110.00

NEN-EN 13001-1:2015**Hijskranen - Algemeen ontwerp - Deel 1: Algemene grondslagen en eisen**

NEN-EN 13001-1 specifies general principles and requirements to be used together with EN 13001-2 and the EN 13001-3 series of standards, and as such they specify conditions and requirements on design to prevent mechanical hazards of cranes, and a method of verification of those requirements. The following is a list of significant hazardous situations and hazardous events that could result in risks to persons during normal use and foreseeable misuse. Clause 4 of this European Standard is necessary to reduce or eliminate the risks associated with the following hazards: a) instability of the crane or its parts (tilting); b) exceeding the limits of strength (yield, ultimate, fatigue); c) elastic instability of the crane or its parts (buckling, bulging); d) exceeding temperature limits of material or components; e) exceeding the deformation limits. This European Standard is applicable to cranes which are manufactured after the date of approval by CEN of this standard and serves as reference base for the European Standards for particular crane types.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13001-1:2015 en

€ 61.30

NEN-EN 13001-2:2014**Veiligheid van hijskranen - Algemeen ontwerp - Deel 2: Belastingen**

NEN-EN 13001-2 specifies load actions to be used together with the standard EN 13001-1 and EN 13001-3, and as such they specify conditions and requirements on design to prevent mechanical hazards of cranes, and provides a method of verification of those requirements. NOTE Specific requirements for particular types of crane are given in the appropriate European Standard for the particular crane type. The following is a list of significant hazardous situations and hazardous events that could result in risks to persons during normal use and foreseeable misuse. Clause 4 of this standard is necessary to reduce or eliminate the risks associated with the following hazards: a) Instability of the crane or its parts (tilting). b) Exceeding the limits of strength (yield, ultimate, fatigue). c) Elastic instability of the crane or its parts (buckling, bulging). d) Exceeding temperature limits of material or components. e) Exceeding the deformation limits. This document is not applicable to cranes that are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13001-2:2014 en

€ 86.00

NEN-EN 13001-3-2:2014**Hijskranen - Algemeen ontwerp - Deel 3-2: Grenstoestanden en bewijs van geschiktheid van kabels in inscheersystemen**

NEN-EN 13001-3-2 is to be used together with EN 13001-1 and EN 13001-2 and as such they specify general conditions, requirements and methods to prevent mechanical hazards of wire ropes of cranes by design and theoretical verification. NOTE Specific requirements for particular types of cranes are given in the appropriate European Standard for the particular crane type. The following is a list of significant hazardous situations and hazardous events that could result in risks to persons during intended use and reasonably foreseeable misuse. Clauses 5 to 6 of this standard are necessary to reduce or eliminate risks associated with the following hazard: - exceeding the limits of strength (yield, ultimate, fatigue). This European Standard is not applicable to cranes which are manufactured before the date of its publication as EN and serves as reference base for the European Standards for particular crane types (see Annex C). EN 13001-3-2 deals only with the limit state method in accordance with EN 13001-1.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13001-3-2:2014 en

€ 61.30

NEN-EN 13001-3-2:2014/Ontw. A1

Hijskranen - Algemeen ontwerp - Deel 3-2: Grenstoestanden en bewijs van geschiktheid van kabels in inscheersystemen

Type C

NEN-EN 13001-3-2:2014/Ontw. A1:2017 en

€ 23.50

NEN-EN 13001-3-3:2014

Hijskranen - Algemeen ontwerp - Deel 3-3: Grenstoestanden en bewijs van geschiktheid van contacten tussen wiel en rail

NEN-EN 13001-3-3 is to be used together with EN 13001-1 and EN 13001-2 and as such they specify general conditions, requirements and methods to prevent mechanical hazards of wheel/rail contacts of cranes by design and theoretical verification. This European Standard covers requirements for steel and cast iron wheels and is applicable for metallic wheel/rail contacts only. Roller bearings are not in the scope of this European Standard. Exceeding the limits of strength is a significant hazardous situation and hazardous event that could result in risks to persons during normal use and foreseeable misuse. Clauses 5 to 6 of this European Standard are necessary to reduce or eliminate the risks associated with this hazard. This European Standard is applicable to cranes, which are manufactured after the date of approval of this European Standard by CEN, and serves as a reference base for product standards of particular crane types. This European Standard is for design purposes only and should not be seen as a guarantee of actual performance. EN 13001-3-3 deals only with limit state method in accordance with EN 13001-1.

Type C 2006/42/EG Geverniseerd

NEN-EN 13001-3-3:2014 en

€ 61.30

NEN-EN 13001-3-4 Ontw.

Hijskranen - Algemeen ontwerp - Deel 3-4: Grenstoestanden en bewijs van geschiktheid van machines - Lagers

This European Standard is to be used together with EN 13001-1 and EN 13001-2 and as such they specify general conditions, requirements and methods to prevent mechanical hazards of cranes by design and theoretical verification. This European Standard covers bearings that are not dealt with by other EN 13001 standards. The following is a list of significant hazardous situations and hazardous events that could result in risks to persons during intended use and reasonably foreseeable misuse. Clauses 4 to 7 of this standard are necessary to reduce or eliminate risks associated with the following hazards: - exceeding the limits of strength (yield, ultimate, fatigue); - exceeding temperature limits of material or components; - elastic instability of the crane or its parts (buckling, bulging). This European Standard is not applicable to cranes which are manufactured before the date of its publication as an EN and serves as reference base for the European Standards for particular crane types (see Annex C).

Type C

NEN-EN 13001-3-4:2016 Ontw. en

€ 46.90

NEN-EN 13001-3-5:2016

Hijskranen - Algemeen ontwerp - Deel 3-5: Grenstoestanden en bewijs van geschiktheid van gesmede haken

NEN-EN 13001-3-5 is to be used together with EN 13001-1 and EN 13001-2 and, as such, they specify general conditions, requirements and methods to prevent by design and theoretical verification, mechanical hazards in crane hooks. This European Standard covers the following parts of hooks and types of hooks: - bodies of any type of hooks made of steel forgings; - machined shanks of hooks with a thread/nut suspension. Principles of this European Standard can be applied to machined shanks of hooks in general. However, stress concentration factors relevant to designs not given in this standard would have to be determined and applied. The following is a list of significant hazardous situations and hazardous events that could result in risks to persons during normal use and foreseeable misuse. Clauses 4 to 8 of this document are necessary to reduce or eliminate the risks associated with the following hazards: a) exceeding the limits of strength (yield, ultimate, fatigue); b) exceeding temperature limits of material. The requirements of this European Standard are stated in the main body of the document and are applicable to forged hook designs in general. The commonly used hook body and shank designs listed in Annexes A, B and F are only examples and should not be referred to as requirements of this European Standard. Annex I gives guidance for the selection of a hook size, where a hook body is in accordance with Annex A or B. The selection of hook form is not limited to those shown in Annexes A and B. This European Standard is applicable to cranes, which are manufactured after the date of approval of this European Standard by CEN, and serves as a reference base for product standards of particular crane types.

Type C 2006/42/EG Geverniseerd

NEN-EN 13001-3-5:2016 en

€ 98.50

NEN-EN 13001-3-5:2016/Ontw. A1

Hijskranen - Algemeen ontwerp - Deel 3-5: Grenstoestanden en bewijs van geschiktheid van gesmede haken

Type C

NEN-EN 13001-3-5:2016/Ontw. A1:2017 en

€ 23.50

NEN-EN 13135:2013**Hijskranen - Veiligheid - Ontwerp - Eisen voor de uitrusting**

This European Standard specifies requirements for the design and selection of electrical, mechanical, hydraulic and pneumatic equipment used in all types of cranes and their associated fixed load lifting attachments with the objectives of protecting personnel from hazards affecting their health and safety and of ensuring reliability of function. The electrical equipment covered by this European Standard commences at the point of connection of the supply to the crane (the crane supply switch) including systems for power supply and control feeders situated outside the crane, e.g. flexible cables, conductor wires or bars, electric motors and cableless controls. The principles to be applied for cranes transporting hazardous loads are given in this standard. Particular requirements are given for cranes transporting hot molten metal. The standard does not cover the detail design of individual items of equipment except with regard to their selection for specific aspects of use. In general, the proof of competence calculations and related strength requirements or safety margins of equipment and components are not covered by this standard. These questions are covered in EN 13001 parts 1 and 2, and in the EN 13001-3 series that is partly under preparation (see Annex A). Exceptionally, some safety margins are given here for items not covered in EN 13001-series. Hazards due to noise are not covered by this standard. They are addressed in safety standards specific to each type of crane. The specific hazards due to potentially explosive atmospheres, ionising radiation, and operation in electromagnetic fields beyond the range of EN 61000-6-2 are not covered by this European Standard. The significant hazards covered by this European Standard are identified in Clause 4. This European Standard is not applicable to cranes, which are manufactured before the date of publication by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13135:2013 en

€ 86.00

NEN-EN 13155:2003+A2:2009**Hijskranen - Veiligheid - Afneembare hijsgereedschappen**

This European Standard specifies safety requirements for the following non-fixed load lifting attachments for cranes, hoists and manually controlled load manipulating devices: - plate clamps; - vacuum lifters; - self priming, - non-self priming (pump, venturi, turbine); - electric lifting magnets (battery fed and mains-fed); - permanent lifting magnets; - electro-permanent lifting magnets; - lifting beams; - C-hooks; - lifting forks; - clamps; defined in clause 3. This standard does not specify the additional requirements for: - non fixed load lifting attachments in direct contact with foodstuffs or pharmaceuticals requiring a high level of cleanliness for hygiene reasons; - hazards resulting from handling specific hazardous materials (e.g. explosives, hot molten masses, - radiating materials); - hazards caused by operation in an explosive atmosphere; - hazards caused by noise; - electrical hazards; - hazards due to hydraulic and pneumatic components. This standard does not cover the hazards related to mechanical strength of structural elements of attachments designed for more than 20 000 lifting cycles. This standard does not cover attachments intended to lift above people. This standard does not cover slings, ladles, expanding mandrels, buckets, grabs, or grab buckets. The hazards covered by this European Standard are identified in clause 4. This European Standard does not cover hazards related to the lifting of persons. This European Standard is applicable to non-fixed load lifting attachments which are manufactured after the date of approval by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13155:2003+A2:2009 en

€ 86.00

NEN-EN 13157:2004+A1:2009**Hijskranen - Veiligheid - Handgedreven hijskranen**

This European Standard specifies requirements for the following hand powered lifting equipment defined in clause 3: - Hand chain blocks; - Lever hoists; - Jaw winches; - Hand powered trolleys supporting lifting machines; - Drum winches; - Pulley blocks and deflection pulley. The significant hazards covered by this European Standard are identified in clause 4. This European Standard does not cover hazards related to the lifting of persons. This standard does not specify the additional requirements for: - use in ambient temperature outside the range of - 10°C to + 50°C, - hand powered lifting equipment in direct contact with food stuffs or pharmaceuticals requiring a high level of cleanliness for hygiene reasons; - hazards resulting from handling specific hazardous materials (e.g. explosives, hot molten masses, radiating materials); - hazards caused by operation in an explosive atmosphere. This European Standard is applicable to hand powered lifting equipment, which are manufactured after the date of approval by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13157:2004+A1:2009 en

€ 86.00

NEN-EN 13557:2003+A2:2008**Hijskranen - Bedieningsorganen en bedieningsplaatsen**

This European Standard specifies health and safety design requirements for controls and control stations for all types of crane. Annex C provides additional value to the requirements for cableless control systems as specified in EN 60204-32. This standard does not deal with noise hazards because these are dealt with in safety standards for specific types of cranes. It also does not address the design of the cabin with regard to its sound insulation properties. This European Standard covers specific hazards which could occur during the use of controls and control stations. It does not cover hazards which could occur during transport, construction, commissioning, modification, maintenance, decommissioning or disposal. The hazards covered by this standard are identified in clause 4. This European Standard is applicable after the date of approval by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13557:2003+A2:2008 en

€ 61.30

NEN-EN 13586:2004+A1:2008**Hijskranen - Toegang**

This European Standard specifies design requirements for non-powered access installed on cranes. This European Standard covers access to control stations and all access required for maintenance, certain erection and dismantling operations (see below) and emergency. For those cranes which are intended to be erected and dismantled at their places of work, specific requirements for the access needed during these operations are given in the appropriate European Standards for specific crane types.

Type C 2006/42/EG Geverifieerd

NEN-EN 13586:2004+A1:2008 en

€ 61.30

NEN-EN 13852-1:2013**Hijskranen - Offshore kranen - Deel 1: Offshore kranen voor algemene doeleinden**

This European Standard specifies the requirements for general-purpose offshore cranes including their supporting pedestals or structures. The standard is applicable to general-purpose offshore cranes covered by the scope of this European Standard which are manufactured after the date of its publication as EN. This European Standard is not applicable to general-purpose offshore cranes which are manufactured before the date of its publication as an EN. This European Standard does not cover use of - or hazards relating to the following: a) fabrication, transportation, assembly, dismantling, disabling, scrapping or changing the configuration of the crane; b) lifting accessories, i.e. any item between the hook and the load; c) minimum design temperature below -20 °C; d) operations at an ambient temperature above 45 °C; e) lifting operations involving more than one crane; f) accidental loads due to collisions; g) hand powered cranes and other cranes with a rated capacity less than 2 t or outreach less than 8 m; h) emergency rescue operations; (except training) i) subsea lifting operations. The significant hazards covered by this European standard are identified in Clause 4. This European Standard includes requirements for the lifting of personnel by a general-purpose offshore crane.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13852-1:2013 en

€ 110.00

NEN-EN 14238:2004+A1:2010**Hijskranen - Met de hand bestuurde lastmanipulatoren**

This document specifies requirements for manually controlled load manipulating devices (herein referred to as manipulators), powered by an energy other than human energy, to assist an operator in the handling of loads.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14238:2004+A1:2010 en

€ 61.30

NEN-EN 14439:2007+A2:2009**Hijskranen - Veiligheid - Torenkranen**

This European Standard specifies safety requirements: - for tower cranes and - for climbing systems used with the tower cranes/masts of tower cranes for which they have been designed. They are classified as external or internal systems. This European Standard applies to tower cranes for construction work, which are either erected by parts or self erecting cranes. This European Standard is not applicable to mobile cranes, mobile harbour cranes, crawler cranes, slewing jib cranes, bridge and gantry cranes, offshore cranes, floating cranes, loader cranes, hand operated cranes or railway cranes. This European Standard deals with all significant hazards, hazardous situations and events relevant to tower cranes, when used as intended and under conditions foreseen by the manufacturer. This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards (see Clause 4). The significant hazards covered by this European Standard are identified in Clause 4. This European Standard does not cover hazards related to: - the lifting of persons by the tower crane itself. The requirements related to Electromagnetic compatibility (EMC), the specific hazards due to external influence on electrical equipment, potentially explosive atmospheres and ionising radiation are not covered by this European Standard. This European Standard covers hazards related to the lifting of persons using a climbing system. This European Standard is not applicable to tower cranes and climbing systems which are manufactured before the date of publication by CEN of this European Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14439:2007+A2:2009 en

€ 86.00

NEN-EN 14492-1 Ontw.**Hijskranen - Lieren en takels met motoraandrijving - Deel 1: Lieren met motoraandrijving**

This draft European Standard is applicable to the design, information for use, maintenance and testing of power driven winches for which the prime mover is an electric motor, hydraulic motor, internal combustion motor or pneumatic motor. Winches are designed for the movement or manipulation of loads supported on level or inclined planes in situations where risks resulting from a failure of the winding mechanism or pulling medium are mitigated by external control measures. This draft European Standard is not applicable to devices which handle freely suspended loads, e.g. construction winches. Generally, a winch is used without any additional transport movement, except in cases where a winch is used on a stranded vehicle for self-recovery of the vehicle. This European Standard is applicable to the following types of winch: a) rope winches; b) belt winches, except steel belts used as pulling media; c) traction winches. These types of winches a) to c) also include the following specific applications: - vehicle recovery winches; - winches on boat trailers; - forestry winches; - winches for stationary offshore applications; - winches for drilling applications.

Type C

NEN-EN 14492-1:2015 Ontw. en

€ 46.90

NEN-EN 14492-1:2006+A1:2009**Hijskranen - Lieren en takels met motoraandrijving - Deel 1: Lieren met motoraandrijving**

This European Standard is applicable to the design, information for use, maintenance and testing of power driven winches for which the prime mover is an electric motor, hydraulic motor, internal combustion motor or pneumatic motor. They are designed for the lifting and lowering of loads which are suspended on hooks or other load handling devices or for the lifting and lowering of loads on inclined planes or the exclusive pulling of loads on planes which are normally horizontal. As a rule, a winch is used without any additional transport movement. This European Standard is applicable to the following types of winch: a) rope winches; b) chain winches; c) belt winches, except steel belts used as hoisting media; d) traction winches. These types of winches a) to d) also include the following specific applications: - vehicle recovery winches; - winches on boat trailers; - forestry winches; - winches for stationary offshore applications; - winches for drilling applications; - winches to be used exclusively for the pulling of loads. EN 14492-1:2006+A1:2009 (E) The significant hazards covered by this European Standard are identified in Clause 4. This European Standard does not specify additional requirements for hazards related to the use of winches in explosive atmospheres in underground works. This document applies to winches manufactured after approval by CEN with a transitional period of 2 years.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14492-1:2006+A1:2009 en

€ 98.50

NEN-EN 14492-1:2006+A1:2009/C1:2010

Hijskranen - Lieren en takels met motoraandrijving - Deel 1: Lieren met motoraandrijving

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14492-1:2006+A1:2009/C1:2010 en

€ 0.00

NEN-EN 14492-2 Ontw.

Hijskranen - Lieren en takels met motoraandrijving - Deel 2: Takels met motoraandrijving

This European Standard is applicable to the design, information for use, maintenance and testing of power driven hoists with or without trolleys for which the prime mover is an electric, hydraulic or pneumatic motor. They are designed for the lifting and lowering of loads which are suspended on hooks or other load lifting attachments. Hoists can be used either in cranes, in other machines, e.g. rail dependent storage and retrieval equipment, monorail conveyors or by itself. This European Standard is applicable to the following types of hoist: a) rope hoist; b) chain hoist; c) belt hoist, except belt hoist with steel belts as hoisting media; d) open type hoist; e) NGL building hoists including supporting structures. This European Standard is not applicable of the following hazards: i) this European Standard does not cover hazards related to builders hoists for the transport of goods as defined in Noise Outdoor Directive (OND) 2000/14/EC; ii) this European Standard does not cover hazards related to the lifting of persons.

Type C

NEN-EN 14492-2:2016 Ontw. en

€ 59.10

NEN-EN 14492-2:2006+A1:2009

Hijskranen - Lieren en takels met motoraandrijving - Deel 2: Takels met motoraandrijving

This European Standard is applicable to the design, information for use, maintenance and testing of power driven hoists with or without trolleys for which the prime mover is an electric, hydraulic or pneumatic motor. They are designed for the lifting and lowering of loads which are suspended on hooks or other load lifting attachments. Hoists can be used either in cranes, in other machines, e.g. rail dependent storage and retrieval equipment, monorail conveyors or by itself. This European Standard is applicable to the following types of hoist: a) rope hoist; b) chain hoist; c) belt hoist, except belt hoist with steel belts as hoisting media; d) open type hoist; e) NGL building hoists including supporting structures. This European Standard is not applicable of the following hazards: i) this European Standard does not cover hazards related to builders hoists for the transport of goods as defined in 2000/14/EC; ii) this European Standard does not cover hazards related to the lifting of persons. This European Standard does not specify additional requirements for hazards related to the use of hoists in explosive atmospheres in underground works. The significant hazards covered by this European Standard are identified in Clause 4. This document is not applicable to power driven hoists which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14492-2:2006+A1:2009 en

€ 110.00

NEN-EN 14492-2:2006+A1:2009/C1:2010

Hijskranen - Lieren en takels met motoraandrijving - Deel 2: Takels met motoraandrijving

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14492-2:2006+A1:2009/C1:2010 en

€ 0.00

NEN-EN 14502-2:2005+A1:2008

Hijskranen - Uitrusting voor het hijsen van personen - Deel 2: Hefbare bedieningsplaatsen

This European Standard specifies additional requirements for the design of elevating control stations on cranes. General requirements for control stations on cranes are specified in EN 13557. This European Standard also specifies requirements for the driving mechanism, the supporting and suspension system and for safety devices for the elevating control station. This European Standard does not cover hazards which could occur during transport, erection, commissioning, modification, maintenance, de-commissioning or disposal. This European Standard does not apply to control stations which will move with a load or a load lifting attachment. This European Standard does not apply to lifts for crane drivers. This European Standard does not deal with noise hazards because noise due to the movement of the elevating control station is negligible compared to the noise due to the normal operation of the crane.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14502-2:2005+A1:2008 en

€ 61.30

NEN-EN 14985:2012

Hijskranen - Zwenkarmkranen

This European Standard applies to electrically or hydraulically powered slewing jib cranes mounted in one position or free to travel on horizontal rails. It does not apply to wall mounted, pillar, derrick, railway, tower or workshop jib cranes. This European Standard is not applicable to erection, dismantling operations, or changing the configuration of the crane. This European Standard gives requirements for all significant hazards, hazardous situations and events relevant to slewing jib cranes, when used as intended and under conditions foreseen by the manufacturer. The specific hazards due to potentially explosive atmospheres, ionising radiation, and operation in electromagnetic fields beyond the range of EN 61000-6-2 are not covered by this European Standard. This European Standard does not include requirements for the lifting of persons. This European Standard is applicable to slewing jib cranes, which are manufactured after the date of approval by CEN of this European Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14985:2012 en

€ 86.00

NEN-EN 15011:2011+A1:2014**Hijskranen - Brugkranen en portaalkranen**

NEN-EN 15011+A1 applies to bridge and gantry cranes able to travel wheels on rails, runways or roadway surfaces, and to gantry cranes without wheels mounted in a stationary position. This European Standard specifies requirements for all significant hazards, hazardous situations and events relevant to bridge and gantry cranes when used as intended and under conditions foreseen by the manufacturer (see Clause 4). This European Standard does not include requirements for the lifting of persons. The specific hazards due to potentially explosive atmospheres, ionising radiation and operation in electromagnetic fields beyond the range of EN 61000-6-2 are not covered by this European Standard. This European Standard is applicable to bridge and gantry cranes manufactured after the date of its publication as an EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 15011:2011+A1:2014 en

€ 98.50

NEN-EN 15056:2006+A1:2009**Hijskranen - Eisen voor containerspreaders**

This European Standard specifies safety requirements for spreaders used with cranes designed for the purpose of handling ISO containers based on ISO 668 including other lengths such as 45 ft. The connection between the spreader and the container is by the use of twistlocks that engage into the container's upper corner castings. The standard deals with all significant hazards, hazardous situations and events relevant to container handling spreaders, when used as intended and under conditions foreseen by the manufacturer (see Clause 4). The spreader is interfaced to the crane's control and safety system. This European Standard does not cover the following types of spreaders: — hand operated spreaders (without external power supply); — bottom lift grapple spreaders used for swapbodies and road trailers. This European Standard does not deal with the lifting of persons. This European Standard is applicable to spreaders which are manufactured after the date of approval by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 15056:2006+A1:2009 en

€ 49.30

NEN-EN 16851:2017**Hijskranen - Lichte kraansystemen**

NEN-EN 16851 applies to: - light crane systems, either suspended or free-standing systems; - pillar jib cranes; - wall-mounted jib crane.

Type C 2006/42/EG Geverifieerd

NEN-EN 16851:2017 en

€ 74.30

Houtbewerkingsmachines**NEN-EN 691-1:2012****Houtbewerkingsmachines - Veiligheid - Veiligheid van houtbewerkingsmachines - Deel 1: Algemene eisen**

This European Standard is applicable to woodworking machines with cutting tools and/or sanding tools as defined in 3.2.1, when they are used as intended and under the conditions foreseen by the manufacturer. This document deals with some but not all significant hazards, hazardous situations and events relevant to woodworking machines: those that are common to most of such machines and are listed in Clause 4. When a relevant part EN 691-XX does not exist, EN 691-1 can help to establish the requirements for the machine, but will not by itself provide a means of conforming to the relevant essential health and safety requirements of the Machinery Directive. In this case a risk assessment should be performed.

Type C

NEN-EN 691-1:2012 en

€ 86.00

NEN-EN 848-1:2007+A2:2012**Veiligheid van houtbewerkingsmachines - Freesmachines voor eenzijdige bewerking met draaiend gereedschap - Deel 1: Freesmachines met één verticale as**

Type C 2006/42/EG Geverifieerd

NEN-EN 848-1:2007+A2:2012 en

€ 98.50

NEN-EN 848-2:2007+A2:2012**Veiligheid van houtbewerkingsmachines - Freesmachines voor eenzijdige bewerking met draaiend gereedschap - Deel 2: Eenassige bovenfreesmachines met handmatige of gemachaniseerde voeding**

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable single spindle hand fed/integrated fed routing machines with fixed head but allowing only movement along the axis of the tool during machining hereinafter referred to as "machines" designed to cut solid wood, chip board, fibreboard, plywood and also these materials if they are covered with plastic laminate, edgings or veneer when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. For the definition of stationary and displaceable machine see 3.2.17 and 3.2.18. Machines which are designed to work wood based materials may also be used for working hardened plastic materials with similar physical characteristics as wood. This document does not apply to: a) inverted pin routers and radial arm routers (machines where the work piece is fixed and the tool head is manually moved); b) NC boring machines and NC routing machines; NC boring machines and NC routing machines are dealt with in EN 848-3:2007+A1:2009. c) hand-held routers or any adaptation permitting their use in a different mode, e.g. bench mounting; d) routing machines set up on a bench or a table similar to a bench, which are intended to carry out work in a stationary position, capable of being lifted by one person by hand. The bench can also be an integrated part of the machine if it consists of hinged legs which can be extended down. This document is not applicable to single spindle hand fed/integrated fed routing machines which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 848-2:2007+A2:2012 en

€ 86.00

NEN-EN 859:2007+A2:2012**Veiligheid van houtbewerkingsmachines - Vlakbanken met handvoeding**

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 relevant to stationary and displaceable hand fed surface planing machines fitted or not with demountable power feed unit hereinafter referred to as "machines" designed to cut solid wood, chipboard, fibreboard and plywood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines which are designed to work wood based materials may also be used for working hardened plastic materials with similar physical characteristics as wood

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NEN-EN 860:2007+A2:2012**Veiligheid van houtbewerkingsmachines - Vandiktebanken voor eenzijdige bewerking**

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4, relevant to stationary and displaceable one side thickness planing machines fitted with an integrated feed and with cutterblock fixed in position and manual loading and unloading of the work-piece, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard and plywood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines which are designed to work wood based materials may also be used for working hardened plastic materials with similar physical characteristics as wood. This document does not apply to: a) machines set up on a bench or a table similar to a bench, which is intended to carry out work in a stationary position, capable of being lifted by one person by hand; b) hand held planers or any adaptation permitting their use in a different mode, i.e. bench mounting; c) thickness planing machines where the cutterblock is adjustable for depth of cut setting. This document is not applicable to one side thickness planning machines fitted with an integrated feed and with cutterblock fixed in position which are manufactured before the date of its publication as EN.

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NEN-EN 861:2007+A2:2012**Veiligheid van houtbewerkingsmachines - Gecombineerde vlak- en vandiktebanken**

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 relevant to stationary and displaceable surface planing and thicknessing machines with an integrated feed in thicknessing mode, (with or without demountable power feed unit in planing mode) and with manual loading and unloading of the work-piece, hereinafter referred to as "machines". The cutterblock is fixed in position and for thicknessing an integrated feed is provided. The machines are designed to cut solid wood, chipboard, fibreboard and plywood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines which are designed to work wood based materials may also be used for thicknessing hardened plastic materials with similar physical characteristics as wood. This document does not deal with any hazards which result from the attachment of an optional mortising unit. These hazards are covered by EN 940:2009+A1:2012. This document does not apply to: a) machines set up on a bench or a table similar to a bench, which are intended to carry out work in a stationary position, capable of being lifted by one person by hand; b) surface planing and thicknessing machines where the cutterblock is adjustable for depth of cut setting in thicknessing mode; c) machines where the conversion from planing to thicknessing mode or vice versa is achieved by mounting or demounting parts/units; d) machines where surfacing and thicknessing can be performed at the same time. This document is not applicable to surface planing and thicknessing machines which are manufactured before the date of its publication as EN.

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NEN-EN 861:2007+A2:2012 en

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NEN-EN 940:2009+A1:2012**Veiligheid van houtbewerkingsmachines - Gecombineerde houtbewerkingsmachines**

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable combined woodworking machines with two or more of only the following integrated units: - surface planing, - circular sawing (working simultaneously or not with vertical spindle moulding unit), - vertical spindle moulding, - boring [mortising] and - thickness planing hereinafter referred to as machines, designed to cut solid wood, chipboard, fibreboard, plywood, and also these materials where they are covered with plastic laminates or edging or veneer, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse

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NEN-EN 940:2009+A1:2012 en

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NEN-EN 1218-1:1999+A1:2009**Veiligheid van houtbewerkingsmachines - Pennenbanken - Deel 1: Eenzijdige pennens banken met schuiftafel**

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to single end tenoning machines with sliding table, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials where they are covered with plastic laminate or edgings." !deleted text" This standard does not apply to: a) machines where the tenon is produced only by means of saw blades; b) machines where the design speed of any tool spindle exceeds 6000 min-1; c) machines where the average sliding table feed speed in either direction exceeds 25 m min-1 + 5%; d) combined machines used for tenoning (see !EN 940:2009"); e) tenoning attachments on a vertical spindle moulding machine (see EN 848-1:2007).

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NEN-EN 1218-1:1999+A1:2009 en

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NEN-EN 1218-2:2004+A1:2009

Veiligheid van houtbewerkingsmachines - Pennenbanken - Deel 2: Tweezijdige pennenbanken en/of profielmachines met transportketting

This document deals with all the significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to double end tenoning and/or profiling machines fed by chain or chains, hereinafter referred to as the machine, designed to cut solid wood, chipboard, fibreboard or plywood and also these materials where they are covered with plastic laminate or edgings. The workpiece is fed passed the tools by an integrated feed." !deleted text" This document does not apply to: a) double end tenoning and/or profiling machines fed by chain or chains with a complete enclosure as defined in 3.3.11; b) transportable machines. This document does not deal with any hazards relating to: c) mechanical loading of the workpiece to a single machine; or d) single machine being used in combination with any other machine (as part of a line); or e) use of tools working between the machine halves (see 3.1); or f) use of laser. For Computer Numerically Controlled (CNC) machines this document does not cover hazards related to Electro-Magnetic Compatibility (EMC).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1218-2:2004+A1:2009 en

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NEN-EN 1218-3:2001+A1:2009

Veiligheid van houtbewerkingsmachines - Pennenbanken - Deel 3: Machines met handbediende schuiftafels voor het zagen van gestructureerd hout

This document deals with all the significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to hand fed tenoning machines with sliding table for cutting structural timbers, hereinafter referred to as "machines". " This European Standard does not apply to: machines where the tenon is produced by means of milling tools; machines designed for a tool spindle speed exceeding 6000 min-1; machines where the cuts are made on both ends of the workpiece during one cycle; combined machines used for tenoning (see !EN 940:2008"); the tenoning attachment on a vertical spindle moulding machine (see !EN 848-1:2007"). !deleted text" For Computer Numerically Controlled (CNC) machines this European Standard does not cover hazards related to Electro-Magnetic Compatibility (EMC). This European Standard is primarily directed to machines which are manufactured after the date of issue of this European Standard.

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NEN-EN 1218-3:2001+A1:2009 en

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NEN-EN 1218-5:2004+A1:2009

Veiligheid van houtbewerkingsmachines - Pennenbanken - Deel 5: Eenzijdige profileermachines met vaste tafel en aanvoerrollen of met kettingaanvoer

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to one side profiling machines with fixed table and feed rollers or feed chain hereinafter referred to as "machines", where the loading and unloading is manual and where the maximum work-piece height capacity is 200 mm. The machine is designed to process in one pass one side of solid wood, chip board, fibreboard or plywood and also these materials where they are covered with plastic laminate. The work-piece is fed through the processing units by an integrated feed consisting of rollers or a chain. This document does not apply to transportable machines. This document does not deal with any hazards relating to: a) mechanical loading and/ or unloading of the work-piece; or b) a machine being used in combination with any other machine (as part of a line); or c) use of laser. For Computer Numerically Controlled (CNC) machines this document does not cover hazards related to Electro-Magnetic Compatibility (EMC).

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NEN-EN 1218-5:2004+A1:2009 en

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NEN-EN 1807-1:2013

Veiligheid van houtbewerkingsmachines - Lintzagen - Deel 1: Tafelzagen en lintzagen

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable table band saws and band re-saws with manual loading and/or unloading, also when mounted to and powered by a motor tractor, hereinafter together referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood, and also these materials covered with plastic edging and/or plastic/light alloy laminates, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines designed to cut wood based material may also be used to cut rigid plastic materials with similar characteristics as wood. This European Standard does not apply to: a) Transportable machines, i.e. machines set up on a bench or a table similar to a bench, which are intended to carry out work in a stationary position, capable of being lifted by one person by hand; the bench can also be an integrated part of the machine if it consists of hinged legs which can be extended down; b) hand held motor-operated electric tools including any adaptation permitting their use in a different mode, i.e. bench mounting; c) log band saws. This European Standard does not deal with the specific hazards related to thermal engine and P.T.O. equipment that may be fitted to the machine. This European Standard is not applicable to machines manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1807-1:2013 en

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NEN-EN 1807-2:2013**Veiligheid van houtbewerkingsmachines - Lintzagen - Deel 2: Zaagmachines voor boomstammen**

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable log band sawing machines with either manual or automatic loading and/or unloading, hereinafter referred to as "machines", designed to cut solid wood, when they are used as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse. This European Standard does not apply to: a) table band saws and band re-saws; b) specific hazards related to automatic loading and/or unloading; c) any hazards relating to the combination of a single machine being used with any other machine (as part of a line - e.g. loading and/or unloading automated systems); d) any hazards arising from any other machining processes (e.g. milling and sawing) related to associated machines or cutting groups, e.g. canters and circular saws. This European Standard does not deal with the specific hazards related to thermal engine and P.T.O. equipment fitted to the machine. This European Standard is not applicable to machines manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1807-2:2013 en

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NEN-EN 1870-3:2014**Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 3: Afkortzagen en zaagtafels voor gecombineerde afkortzagen/ cirkelzagen**

NEN-EN 1870-3 deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches, herein after referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials where they are covered with plastic edging and/or plastic/light alloy laminates when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse.

Type C

NEN-EN 1870-3:2014 en

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NEN-EN 1870-4:2012**Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 4: Machines met een trekzaag met meerdere bladen en handmatige toe- en afvoer van materiaal**

This document deals with all the significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary multi-blade rip sawing machines, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials, if they are covered with plastic edging and/or plastic/light alloy laminates, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse see also 6.3. This document does not apply to machines with vertical roller feed or vertical chain conveyor feed or machines designed to make the first rip cut on a log. This document is not applicable to machines which are manufactured before the date of its publication as EN.

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NEN-EN 1870-4:2012 en

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NEN-EN 1870-5:2002+A2:2012**Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 5: Gecombineerde cirkelzaagtafels/van onderen werkende afkortzaag en meerbladscirkelzagen voor langszagen**

This document deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to circular saw benches/up-cutting cross-cut sawing machines, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials (where) they are covered with plastic edging and/or plastic/light alloy laminates #when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This document does not apply to: - hand-held motor-operated electric tools or any adaptation permitting their use in a different mode, i.e. bench mounting; machines set up on a bench or a table similar to a bench, which is intended to carry out work in a stationary position, capable of being lifted by one person by hand. This document is not applicable to machines which are manufactured before the date of issue of this EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1870-5:2002+A2:2012 en

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NEN-EN 1870-6:2017**Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 6: Cirkelzaagmachines voor brandhout**

NEN-EN 1870-6 deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to circular sawing machines for firewood with manual loading and/or unloading with hand operated carriage, hereinafter referred to as "machines", designed to cut solid wood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This European Standard is not applicable to: a) combined circular sawing machines for firewood with additional units, i.e. log splitting units or circular saw bench units; b) machines where the saw blade is capable of tilting; c) log sawing machines where the saw unit moves to cut the workpiece; d) hand-held motor-operated electric tools or any adaptation permitting their use in a different mode, i.e. bench mounting; For RIC engines driven machines hazard of engine electrical starting systems above 24 V are not dealt with in this standard. This document is not applicable to machines which are manufactured before the date of its publication as EN.

Type C

NEN-EN 1870-6:2017 en

€ 86.00

NEN-EN 1870-7:2012

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 7: Enkelbladige zaag met geïntegreerde aanvoertafel voor boomstammen en met handmatige aan- en afvoer

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to single blade circular log sawing machines with saw blade diameter = 600 mm and with integrated feed table with manual loading and/or unloading, (hereinafter referred to as "machines"), designed to cut solid wood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This European Standard is not applicable to machines manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1870-7:2012 en

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NEN-EN 1870-8:2012

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 8: Enkelbladige schulpzagen met aangedreven zaageenheid en handmatige voeding en afname van het werkstuk

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard and plywood when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This document applies to machines where the workpiece is stationary, the vertical and horizontal movements of the saw unit are power driven, and where the machine is provided with workpiece clamping. The workpiece may or may not be clamped during cutting.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1870-8:2012 en

€ 86.00

NEN-EN 1870-9:2012

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 9: Cirkelzaagmachines met twee bladen voor afkortzagen met geïntegreerde voeding en met handmatige aanvoer en/of verwijdering van werkstukken

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to double blade circular sawing machines for cross-cutting with integrated feed of the saw units and with manual loading and/or unloading, hereinafter referred to as "machines". These are machines designed to cut solid wood, chipboard, fibreboard and plywood, and also these materials when covered with plastic edging and/or plastic/light alloy laminate, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This document does not apply to: machines for cross cutting logs; double blade up-cutting cross-cut sawing machines. This document is not applicable to machines which are manufactured before its date of publication as an EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1870-9:2012 en

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NEN-EN 1870-10:2013

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 10: Automatische enkelbladige en semi-automatische afkortzaagmachines met een zaagblad

This document deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable single blade automatic and semi-automatic up-cutting cross cut sawing machines with one sawing unit herein after referred to as "machines" designed to cut solid wood, chip-board, fibreboard, plywood and also these materials if they are covered with plastic edging and/or plastic/light alloy laminates when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines which are designed to work wood based materials may also be used for working hardened plastic materials with similar physical characteristics as wood. For the definition of stationary and displaceable machine see 3.2.4 and 3.2.5. Any work piece positioning equipment fitted to the machine is included in this document. This document does not apply to machines designed for cross cutting logs. This document is not applicable to machines which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1870-10:2013 en

€ 74.30

NEN-EN 1870-11:2013

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 11: Half-automatische en automatische horizontale afkortzagen met een zaageenheid (zagen met radiale arm)

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to semi-automatic horizontal cutting cross-cut sawing machines with one saw unit (radial arm saws), hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials when covered with plastic edging and/or plastic/light alloy laminates when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines which are designed to work wood based materials may also be used for working rigid plastic materials with similar physical characteristics as wood. Any work-piece positioning equipment fitted to the machine is included in this European Standard. This European Standard does not apply to machines: a) with manual feed of the saw unit; or b) for cross cutting logs; or c) specifically designed for sawing and/or milling roof timber frames; or d) fitted with hydraulic braking systems. This European Standard is not applicable to machines which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1870-11:2013 en

€ 74.30

NEN-EN 1870-12:2013

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 12: Afkortzaagmachines met pendelend zaagblad

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to pendulum cross-cut sawing, herein after referred to as 'machines', designed to cut solid wood, chipboard, fibreboard, plywood and also these materials when covered with plastic edging and/or plastic/light alloy laminates when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This European Standard does not apply to: a) machines for cross cutting logs; b) machines where the saw unit can be rotated about a horizontal axis.

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NEN-EN 1870-12:2013 en

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NEN-EN 1870-14:2007+A2:2012

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 14: Verticale plaatzaagmachines

This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to manually loaded and unloaded vertical panel sawing (with or without integrated feed) machines fitted with: - the facility for scoring; - an angle cutting device; - a middle support device; - a programmable stop for parallel vertical cuts; - the facility for grooving with a width of at most 20 mm in one pass by using a milling tools, hereinafter referred to as "machines" when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. The machines are designed for cutting panels of the following materials: a) wood based materials such as chipboard, fibreboard, plywood and also these materials where they are covered with plastic / light alloy laminates; b) solid wood; c) hardened rubber and hardened plastic material; d) non ferrous materials e.g. light alloy; e) compound materials with core consisting of polyurethane or mineral material laminated with light alloy.

Type C 2006/42/EG Geverifieerd

NEN-EN 1870-14:2007+A2:2012 en

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NEN-EN 1870-15:2012

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 15: Zaagmachines met meerdere zaagbladen voor afkortzagen met geïntegreerde aanvoerinrichting en handmatige aan- en afvoer van werkstukken

This European Standard specifies all requirements and/or measures to reduce the hazards and limit the risks on multi-blade cross-cut sawing machines (with minimum two saw unit) with integrated feed of the work-piece and manual loading and/or unloading fitted with a saw blade drive motor for each saw unit, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials where they are covered with plastic edging and/or plastic/light alloy laminates, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. This document deals with all significant hazards, hazardous situations and events which are relevant to these machines as stated in Clause 4. It does not deal with any hazards relating to the mechanical loading and/or unloading of the work-piece or which result from the combination of the machine with any other. This document does not cover machines designed for climb cutting (see 3.2.10). The requirements of this document apply to all machines whatever their method of control e.g. electromechanical and/or electronic and/or pneumatic. This document is not applicable to multi-blade cross-cut sawing machines with integrated feed of the workpiece and manual loading and/or unloading which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1870-15:2012 en

€ 74.30

NEN-EN 1870-16:2012

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 16: Dubbel verstekzaagmachine voor het zagen in V-vorm

This European Standard specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to double mitre sawing machines for V-cutting with a maximum cutting capacity (width and height) of = 200 mm, fitted or not with pneumatic systems, hereinafter referred to as the machine, designed to cut solid wood, chipboard, fibreboard or plywood and also these materials where they are covered with plastic laminate or edgings, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. The requirements of this document apply to stationary and displaceable double mitre saw for V-cutting (see 3.3.3 and 3.3.4). The requirements of this document apply to all machines whatever their method of control, e.g. electromechanical and/or electronic.

Type C 2006/42/EG Geverifieerd

NEN-EN 1870-16:2012 en

€ 74.30

NEN-EN 1870-17:2012+A1:2015

Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 17: Handmatig bediende horizontale afkortzaagmachines met enkelvoudige zaageenheid (handbediende zagen met radiale arm)

NEN-EN 1870-17+A1 specifies all significant hazards, hazardous situation and events as listed in Clause 4, relevant to stationary and displaceable manual horizontal cutting cross-cut circular sawing machines with one saw unit (manual radial arm saws), hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials if they are covered with plastic edging and/or plastic laminates, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse.

Type C 2006/42/EG Geverifieerd

NEN-EN 1870-17:2012+A1:2015 en

€ 74.30

NEN-EN 1870-19:2013**Veiligheid van houtbewerkingsmachines - Cirkelzagen - Deel 19: Cirkelzaag machines (met en zonder schuiftafel) en bouwplaatszagen**

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable circular saw benches (with or without sliding table and/or demountable power feed unit) and building site saws, hereinafter referred to as "machines", designed to cut solid wood, chipboard, fibreboard, plywood and also these materials, if they are covered with plastic edging and/or plastic/light alloy laminates, when they are used as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Machines which are designed to cut wood-based material may also be used for cutting hardened plastic materials with similar physical characteristics as wood. The requirements of this document apply also to machines designed for grooving with a width not exceeding 20 mm in one pass by using a milling tool. This document does not apply to: a) machines set up on a bench or a table similar to a bench, which are intended to carry out work in a stationary position, capable of being lifted by one person by hand. The bench can also be an integrated part of the machine if it consists of hinged legs which can be extended down; b) hand held woodworking machines including any adaptation permitting their use in a different mode, i.e. bench mounting. For the purpose of this document, building site saws having a tiltable spindle are considered to be circular saw benches. This document is not applicable to circular saw benches (with and without sliding table) and building site saws which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1870-19:2013 en

€ 98.50

NEN-EN 12750:2013**Veiligheid van houtbewerkingsmachines - Freesmachines voor vierzijdige bewerking**

This European Standard deals with all significant hazards, hazardous situations and events as listed in Clause 4, which are relevant to stationary four sided moulding machines with a maximum working width of 350 mm and a maximum speed of the integrated work-piece feed of 200 m/min, with electrical and/or electronic control system, hereinafter referred to as "machines" designed to cut solid wood, chipboard, fibreboard, plywood and also these materials where these are covered with plastic laminate or edgings when they are used as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse of the machine (see 6.3 c)). For the definition of a stationary machine, see 3.22. This European Standard deals also with hazards relating to the following optional work units: - universal spindle; - glass bead cutting unit. This European Standard is not applicable to machines designed for machining logs which have not previously been machined. This European Standard does not deal with any hazards relating to: a) in-feed devices (magazines, hoppers, etc.); for mechanical in-feed devices which also prevent access to the in-feed opening, see 5.3.7.2; b) the combination of single machines with any other machine as part of a line; c) out-feed devices (e.g. mechanical handling systems) except for hazards related to ejection from the machine due to climb cutting. This European Standard is not applicable to four sided moulding machines which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12750:2013 en

€ 86.00

NEN-EN 12779:2015**Veiligheid van houtbewerkingsmachines - Vast opgestelde installaties met afzuigsystemen voor zaagsel en spaanders - Veiligheidseisen**

NEN-EN 12779 deals with the significant hazards, hazardous situations and events relevant for chip and dust extraction systems for fixed installation and for connection with machines for working on solid wood (including hard wood), wood-based materials and wood-like materials, when they are used as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse. This European Standard deals also with the technical requirements to minimize the hazards in connection with the temporary storage of wood dust, chips and shavings in a silo, bin or container including charging and discharge systems. This European standard does not apply to: a) chip and dust extraction systems with filters installed indoors (covered by prEN 16770); b) extraction equipment (e.g. extraction hoods, ducts) within a woodworking machine including the outlet to which the extraction system is connected; c) chip and dust extraction systems designed for KST values above 200 bar ms⁻¹; d) mechanical conveying systems between filter and storage facility; e) extraction systems and conveying systems with underpressure below 0,3 bar or overpressure above 0,3 bar; f) storage devices for pressed wood products (e.g. pellets) and humid shavings. Requirements for containers are not dealt with in this standard. This European Standard is not applicable to machines which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12779:2015 en

€ 86.00

NEN-EN 16770 Ontw.**Veiligheid van houtbewerkingsmachines - Inpandig geplaatste afzuigsystemen voor zaagsel en spaanders - Veiligheidseisen**

This document deals with all significant hazards, hazardous situations and events as listed in Clause 4, relevant for chip and dust extraction systems for indoor use designated to be connected to machines designed to cut solid wood (including hard wood), wood based materials and materials similar to wood, when they are used as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse. This European standard does not apply to: a) extraction systems with a nominal volume flow rate V, above 8 000 m³/h and/or a volume of the dust loaded part of the dust extractor above 3,5 m³; b) vacuum cleaners according to EN 60335-2-69/A2:2013; c) extraction systems with fans installed in the dust loaded part; d) extraction equipment (e. g. extraction hoods, ducts) within a woodworking machine, i. e. up to and including the outlet to which the extraction system is connected; e) extraction systems designed for dust with KST values above 200 bar ms⁻¹, minimum ignition energy below 10 mJ and/or lower explosion level below 30 g/m³; f) extraction systems designed for aspiration of explosive atmospheres, e. g. dust load > 50 % lower explosion level; g) systems designed for extraction from machines with a higher risk of causing ignition sources; h) silos. This European Standard is not applicable to machines which are manufactured before the date of its publication as EN.

Type C

NEN-EN 16770:2014 Ontw. en

€ 29.20

NEN-EN-ISO 18217:2015**Veiligheid van houtbewerkingsmachines - Kantenverlijmingsmachines met voeding via een kettingaandrijving**

NEN-EN-ISO 18217 deals with all significant hazards, hazardous situations, and events as listed in Clause 4, which are relevant to edge banding machines fed by chains with manual loading and unloading and maximum work-piece height capacity of 100 mm, when they are used as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse. The work-piece is fed through the processing units by an integrated feed. Feeding chains also include "feeding belts". For the purpose of this International Standard, an edge banding machine fed by chains is hereinafter referred to as "machine". The machine is designed to process in one pass, one end (single end machine), or both ends (double end machine) panels of wood materials with similar physical characteristics as wood, as well as gypsum plaster boards. Edges to be applied by the machine can be made of paper, melamine, plastic or composite materials, aluminium or light alloy, veneer or solid wood.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 18217:2015 en

€ 143.10

Kabelbanen**NEN-EN 15700:2011****Veiligheid voor transportbanden voor wintersport of toeristische gebruikten**

This European Standard is applicable for travelators for leisure or winter sports use. These requirements are applicable to travelators for the transport of passengers wearing snow-sliding devices or pedestrians wearing ski boots or heavy boots who may be carrying their snow-sliding devices for winter sports activities. For other uses, users shall wear suitable (enclosed and solid) footwear for travelators. This European Standard has been prepared on the basis of the automatic operation of these installations with no staff permanently present at the actual installation. It covers requirements relating to the prevention of accidents and the safety of workers. This European Standard covers all the significant hazards, hazardous situations and hazardous events specific to travelators, for leisure or winter sports activities, when they are used in conformity with the application for which they are intended, as well as for inappropriate applications which could be reasonably foreseeable by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 15700:2011 en

€ 74.30

Koelmachines en warmtepompen**NEN-EN 378-2:2016****Koelsystemen en warmtepompen - Veiligheids- en milieu-eisen - Deel 2: Ontwerp, constructie, beproeven, merken en documentatie**

NEN-EN 378-2 specifies the requirements for the safety of persons and property, provides guidance for the protection of the environment and establishes procedures for the operation, maintenance and repair of refrigerating systems and the recovery of refrigerants. The term "refrigerating system" used in this European Standard includes heat pumps. This Part 2 of this Standard is applicable to the design, construction and installation of refrigerating systems including piping, components and materials. It includes ancillary equipment not covered in EN 378-1, EN 378-3 or EN 378-4 which is directly associated with these systems. It also specifies requirements for testing, commissioning, marking and documentation. Requirements for secondary heat transfer circuits are excluded except for any protection requirements associated with the refrigerating system. Ancillary equipment includes, for example, fans, fan motors, electrical motors and transmission assemblies for open compressor systems. This standard applies: a) to refrigerating systems, stationary or mobile, of all sizes except to vehicle air conditioning systems covered by a specific product standard, e.g. ISO 13043; b) to secondary cooling or heating systems; c) to the location of the refrigerating systems; d) to replaced parts and added components after adoption of this standard if they are not identical in function and in the capacity. Systems using refrigerants other than those listed in EN 378-1:2016, Annex E are not covered by this standard. This standard does not apply to goods in storage. This standard is not applicable to refrigerating systems which were manufactured before the date of its publication as a European Standard except for extensions and modifications to the system which were implemented after publication. This standard is applicable to new refrigerating systems, extensions or modifications of already existing systems, and for existing stationary systems, being transferred to and operated on another site. This standard also applies in the case of the conversion of a system to another refrigerant type, in which case conformity to the relevant clauses of parts 1 to 4 of the standard shall be assessed.

Type C 2006/42/EG Geverifieerd

NEN-EN 378-2:2016 en

€ 98.50

NEN-EN 12693:2008**Koelsystemen en warmtepompen - Veiligheids- en milieueisen - Verdringingscompressoren voor koelvloeistoffen**

This standard applies to positive displacement refrigerant compressors for stationary and mobile refrigerating systems and heat pumps defined in 3.1, hereafter called compressors. It applies for compressors used in commercial and industrial appliances and with electrical energy supply including integral motors, up to 1 000 VAC and 1 500 VDC. It applies to open drive, semi hermetic and hermetic motor compressors, which contain a positive compression function. This standard is not applicable to: - compressors used in household appliance for which EN 60335-2-34 applies; - compressors using water or air as refrigerant. This standard does not deal with requirements for vibration and noise.

Type C 2006/42/EG Geverifieerd

NEN-EN 12693:2008 en

€ 86.00

Land- en bosbouwmachines

NEN-EN 609-1:2017

Landbouw- en bosbouwmachines - Veiligheid van houtkloofmachines - Deel 1: Wigkloofmachines

NEN-EN 609-1 specifies the safety requirements, and their verification for the design and construction of horizontal and vertical wedge splitters, designed for splitting logs for firewood, irrespective of the nature of the power source used. This standard deals with wedge splitters that are designed so that the splitting operation is activated by one person only, however it is foreseeable that other operators may be working with the machine e.g. for loading or unloading. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. This document deals with all the significant hazards, hazardous situations and hazardous events relevant to these machines when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Table 1). This document is not applicable to machines that are designed for both cutting into length for splitting and splitting for firewood. This document is not applicable to wedge splitters which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 609-1:2017 en

€ 86.00

NEN-EN 609-2:1999+A1:2009

Landbouw- en bosbouwmachines - Houtkloofmachines - Veiligheid - Deel 2: Schroefkloofmachines

This European Standard specifies safety requirements, and their verification, for the design and construction of screw splitters with horizontal screws, designed to be used by one operator for splitting wood, irrespective of the nature of the power source used. On a dual purpose circular saw for firewood/log splitting machine only the log splitter part of the machine is covered by this standard, for circular saws. For firewood saws see prEN 1870-6:1997. This standard describes methods for the elimination or reduction of risks arising from their use. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. The list of significant hazards dealt with is given in annex A. Annex A also indicates the hazards which have not been dealt with. This European Standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 609-2:1999+A1:2009 en

€ 49.30

NEN-EN 690:2013

Landbouwmachines - Stalmeststrooiers - Veiligheid

This European Standard, to be used together with EN ISO 4254-1, specifies the safety requirements and their verification for the design and construction of self-propelled, mounted, semi-mounted and trailede manure spreaders, provided with vertical or horizontal axes rotors rear spreader device or with vertical axes disc rear spreader device. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. When requirements of this document are different from those which are stated in EN ISO 4254-1, the requirements of this document take precedence over the requirements of EN ISO 4254-1 for machines that have been designed and built according the provisions of this document. This European Standard, taken together with EN ISO 4254-1, deals with all the significant hazards, hazardous situations and events relevant to manure spreaders, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Table 1), excepting the hazards arising from: - vibrations of self-propelled machinery; - travelling function of self-propelled machinery; - overturning in regard to the protection of the operator at the driving station of a self-propelled machine; - hazards related to conveying devices other than those defined in 3.3.1 and 3.3.2, for example load push/push-off device.

Type C 2006/42/EG Geverifieerd

NEN-EN 690:2013 en

€ 61.30

NEN-EN 703:2004+A1:2009

Landbouwmachines - Machines om kuilvoer te laden, te mengen en/of te verdelen - Veiligheid

This document, used together with EN 1553, specifies the safety requirements and their verification for the design and construction of mounted, semi-mounted, trailede or self-propelled machines that have a combination of two or more of the following functions: loading, mixing, chopping and distributing silage and/or other feedstuffs, to be used by one operator only. It includes those fitted with a built-in loading crane. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. This document applies only to machines that have the following functional combinations: mixing and distributing functions; or mixing, chopping and distributing functions; or loading, mixing and distributing functions; or loading, mixing, chopping and distributing functions; or chopping and distributing functions; or loading, chopping and distributing functions. Silage block cutters, even if they carry out a single function, are covered by this document. It does not apply: to machines which pick up green fodder directly from the field; to loading cranes; to silage buckets.

Type C 2006/42/EG Geverifieerd

NEN-EN 703:2004+A1:2009 en

€ 61.30

NEN-EN 706:1996+A1:2009

Landbouwmachines - Mengmestverspreiders - Veiligheid

This standard specifies safety requirements and their verification for design and construction of self-propelled, mounted or semi-mounted vine shoot tipping machines. These mobile machines are used for trimming vineyard and other fruit trees that grow in the same way (trellising plants) and similar applications. Their cutting tools are either: High speed rotative blades (which cut by impact), or Rotative blade and counter blade (which cut by shearing), or Reciprocating cutting bar (which cuts by shearing). This standard does not apply to: Tipping machines for free standing fruit bushes, Walk-behind pedestrian controlled machines, Machines intended to be mounted on walk-behind pedestrian controlled machines, Hand-held machines.

Type C 2006/42/EG Geverifieerd

NEN-EN 706:1996+A1:2009 en

€ 49.30

NEN-EN 707 Ontw.**Landbouwmachines - Mengmestverspreiders - Veiligheid**

This European Standard, to be used together with EN ISO 4254-1, specifies the safety requirements and their verification for the design and construction of semi-mounted, trailed and self-propelled slurry tankers, including their spreading or injecting devices, intended for spreading or injecting slurry which are operated by either pneumatic or mechanical power. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. When requirements of this European Standard are different from those which are stated in EN ISO 4254-1, the requirements of this European Standard take precedence over the requirements of EN ISO 4254-1 for machines that have been designed and built according the provisions of this European Standard. This European Standard, taken together with EN ISO 4254-1, deals with all the significant hazards, hazardous situations and events relevant to slurry tankers, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Table A.1), excepting the hazards related to road safety (e.g. steering, braking). Environmental aspects have not been considered in this European Standard. This European Standard is not applicable to slurry tankers which are manufactured before the date of its publication as EN.

Type C

NEN-EN 707:2017 2e Ontw. en

€ 29.20

NEN-EN 707:1999+A1:2009**Landbouwmachines - Mengmestverspreiders - Veiligheid**

This standard specifies specific safety requirements and their verification for the design and construction of all semi-mounted, trailed and self-propelled slurry tankers, including their spreading or injecting devices, intended for spreading or injecting slurry which are operated by either pneumatic or mechanical power. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. The list of significant hazards dealt with in this standard is given in Annex A. Annex A also indicates the hazards which have not been dealt with. Environmental aspects have not been considered in this standard. This standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geverniseerd

NEN-EN 707:1999+A1:2009 en

€ 61.30

NEN-EN 709:1997+A4:2009**Land- en bosbouwmachines - Eenassige trekkers met direct aangedreven cultivatoren, schoffelmachines en aangedreven schoffelmachines - Veiligheid**

This European Standard specifies safety requirements and testing for design and construction of, pedestrian controlled tractors with mounted rotary cultivators with the cultivator rotating axis horizontal and perpendicular to the direction of motion of the machine, motor hoes and motor hoes with drive wheel(s), all as used in agriculture, forestry, landscaping and gardening (including amenity use). It describes methods for the elimination or reduction of risks arising from their use. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices. This European Standard does not cover the requirements to fulfil national road traffic regulations such as lights, steering and braking. Environmental aspects have not been considered in this standard. This European Standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geverniseerd

NEN-EN 709:1997+A4:2009 en

€ 74.30

NEN-EN 709:1997+A4:2009/C1:2012**Land- en bosbouwmachines - Eenassige trekkers met direct aangedreven cultivatoren, schoffelmachines en aangedreven schoffelmachines - Veiligheid**

Type C 2006/42/EG Geverniseerd

NEN-EN 709:1997+A4:2009/C1:2012 en

€ 0.00

NEN-EN 786:1996+A2:2009**Tuingereedschap - Elektrisch aangedreven handgeleide graskantmaaiers en graskantensnijders - Mechanische veiligheid**

This European Standard specifies mechanical safety requirements and testing for the design and construction of electrically powered walk-behind and hand-held lawn trimmers and lawn edge trimmers, with cutting element(s) of non-metallic filament line or freely pivoting non-metallic cutter(s) with a kinetic energy of not more than 10 J each, and used by a standing operator primarily for cutting grass. It describes methods for the elimination or reduction of hazards arising from their use. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices. The electrical aspects of electrically powered lawn trimmers and lawn edge trimmers are not covered by this standard. The list of significant hazards dealt with in this standard is given in annex A. Annex A also indicates the hazards which have not been dealt with. Environmental aspects have not been considered in this standard. This European Standard applies primarily to machines which are manufactured after the date of issue of this standard.

Type C 2006/42/EG Geverniseerd

NEN-EN 786:1996+A2:2009 en

€ 61.30

NEN-EN 908:1999+A1:2009**Land- en bosbouwmachines - Haspels voor regeninstallaties - Veiligheid**

This standard specifies safety requirements and their verification for the design and construction of reel machines for irrigation including self-propelled machines. It describes methods for elimination or reduction of risks which need specific requirements for reel machines for irrigation. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. The list of significant hazards dealt with in this standard is given in annex A. Annex A also indicates the hazards which have not been dealt with. Environmental aspects have not been considered in this standard. This standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 908:1999+A1:2009 en

€ 49.30

NEN-EN 909:1999+A1:2009**Land- en bosbouwmachines - Soorten irrigatiemachines met centrale ondersteuning en laterale verplaatsing - Veiligheid**

This standard specifies specific safety requirements and their verification for the design and construction of centre pivot and moving lateral types irrigation machines that are electrically powered.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 909:1999+A1:2009 en

€ 49.30

NEN-EN 1374:2000+A1:2010**Landbouwwerktuigen - Stationaire losapparaten voor ronde silo's - Veiligheid**

This European Standard specifies safety requirements for the design and construction of unloaders mounted in stationary round silos for the removal of the silage and similar materials. It applies to electrically powered, slowly rotating unloaders which operate on top surface of the stored silage surface. It describes methods for the elimination or reduction of hazards for which specific requirements on unloaders, as defined in 3 and shown in Annex B, are necessary. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1374:2000+A1:2010 en

€ 61.30

NEN-EN 1853:2017**Landbouwmachines - Kipwagens - Veiligheid**

NEN-EN 1853 specifies safety requirements and their verification for the design and construction of trailers with a tipping body, balanced or semi-mounted, used in agriculture, as defined in 3.1. It includes also hook-lift trailers and trailers with conveyor device as defined in 3.9. This European Standard does not deal with trailers equipped with pick-up devices and/or rear spreading devices. Trailers with a load push/push-off device, slats or alternating moving floor may be removed from this standard, provided a new work item on loader wagons and forage transport wagons (prEN ISO 4254-17) is accepted. This European Standard does not give Required Performance Levels for the identified safety functions. This European Standard, taken together with EN ISO 4254-1, deals with the significant hazards, hazardous situations and events relevant to agricultural trailers, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Table A.1), excepting the hazards arising from: - hazards related to conveying devices other than those defined in 3.9.1 and 3.9.2, for example load push/push-off device; - hazards related to the environment and road safety; - hazards related to braking. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. This document is not applicable to trailers which are manufactured before the date of its publication as EN.

Type C

NEN-EN 1853:2017 en

€ 86.00

NEN-EN-ISO 4254-1:2015**Landbouwmachines - Veiligheid - Deel 1: Algemene eisen**

NEN-EN-ISO 4254-1 specifies the safety requirements and the means of their verification for the design and construction of self-propelled ride-on machines, mounted, semi-mounted and trailede machines used in agriculture in order to deal with the hazards which are typical for most of the machines. In addition, it specifies the type of information on safe working practices including information about residual risks to be provided by the manufacturer. This document deals with significant hazards, hazardous situations and events, as listed in Annex A, relevant to this agricultural machinery when used as intended and under the conditions of misuse foreseeable by the manufacturer during normal operation and service.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 4254-1:2015 en

€ 143.10

NEN-EN-ISO 4254-5:2009**Landbouwmachines - Veiligheid - Deel 5: Motorisch aangedreven grondbewerkingsmaterieel**

This part of ISO 4254, intended to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of mounted, semi-mounted and trailed power-driven soil-working machines used in agriculture. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. This part of ISO 4254 deals with significant hazards (as listed in Annex A), hazardous situations and events relevant to power-driven soil-working machines used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This part of ISO 4254 is not applicable to: ? spading machines; ? machines fitted with a retractable device making them capable of working between two successive plants in the same row. This part of ISO 4254 is not applicable to environmental hazards or electromagnetic compatibility. It is not applicable to hazards related to moving parts for power transmission, except for strength requirements for guards and barriers, nor to maintenance or repairs carried out by professional service personnel. This part of ISO 4254 is not applicable to power-driven soil-working machines which are manufactured before the date of its publication. When requirements of this part of ISO 4254 are different from those which are stated in ISO 4254-1, the requirements of this part of ISO 4254 take precedence over the requirements of ISO 4254-1.

Type C 2006/42/EG Geverniseerd

NEN-EN-ISO 4254-5:2009 en

€ 79.70

NEN-EN-ISO 4254-6:2009**Trekkers en machines voor land- en bosbouw - Veiligheid - Deel 6: Spuitmachines en verdeelapparatuur voor vloeibare kunst mest**

This part of ISO 4254, to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of mounted, semi-mounted, trailed and self-propelled agricultural sprayers for use with pesticide products and liquid fertilizer application, designed for use by one operator only. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. This part of ISO 4254 is not applicable to: - pedestrian-controlled sprayers; - knapsack sprayers; - aerial sprayers; - handheld spraying devices (e.g. spray guns). When requirements of this part of ISO 4254 are different from those which are stated in ISO 4254-1, the requirements of this part of ISO 4254 take precedence over the requirements of ISO 4254-1 for machines that have been designed and built according the provisions of this part of ISO 4254. This part of ISO 4254, taken together with ISO 4254-1, deals with all the significant hazards, hazardous situations and events relevant to sprayers and liquid fertilizer distributors when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4), excepting the hazards arising from: - automatically actuated height adjustment systems; - electrostatic phenomena; - electromagnetic compatibility; - the environment, other than noise; - inhalation of spraying chemical products due to a lack of effective methods to maintain breathing air quality inside the cab; - roll-over and tip-over of self-propelled machines with a ride-on driver; - vibration (except the declaration); - dust emission; - burns.

Type C 2006/42/EG Geverniseerd

NEN-EN-ISO 4254-6:2009 en

€ 79.70

NEN-EN-ISO 4254-6:2009/C11:2010**Trekkers en machines voor land- en bosbouw - Veiligheid - Deel 6: Spuitmachines en verdeelapparatuur voor vloeibare kunst mest**

Type C 2006/42/EG Geverniseerd

NEN-EN-ISO 4254-6:2009/C11:2010 en

€ 0.00

NEN-EN-ISO 4254-10:2009/C11:2010**Landbouwmachines - Veiligheid - Deel 10: Ronddraaiende hooikeermachines en hooiharken**

Type C 2006/42/EG Geverniseerd

NEN-EN-ISO 4254-10:2009/C11:2010 en

€ 0.00

NEN-EN-ISO 4254-10:2010**Landbouwmachines - Veiligheid - Deel 10: Ronddraaiende hooikeermachines en hooiharken**

This part of ISO 4254, to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of rotary tedders, rotary rakes and rotary tedder-rakes, including rotary drum rakes, used by one person (the operator) only, having one or several powered rotors, mounted, semi-mounted, trailed or self-propelled. In addition, it specifies the type of information on safe working practices, including residual risks, to be provided by the manufacturer. This part of ISO 4254 is not applicable to: a) machines with ground-driven tines or ground-wheel-driven tines (e.g. sunflower rakes); b) parallel bar rakes; c) chain or endless belt type rakes; d) pedestrian-controlled tedders and rakes; e) machines equipped with a pick-up device. When requirements of this part of ISO 4254 are different from those which are stated in ISO 4254-1, the requirements of this part of ISO 4254 take precedence over the requirements of ISO 4254-1 for machines that have been designed and built according to the provisions of this part of ISO 4254. This part of ISO 4254, taken together with ISO 4254-1, deals with all the significant hazards, hazardous situations and events relevant to rotary tedders, rotary rakes and rotary tedder-rakes when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4), excepting the hazards arising from: - the environment, other than noise; - electromagnetic compatibility; - vibration; - overturning in regard to the protection of the operator at the driving station of a self-propelled machine; - moving parts for power transmission except strength requirements for guards and barriers; - safety and reliability of control systems.

Type C 2006/42/EG Geverniseerd

NEN-EN-ISO 4254-10:2010 en

€ 34.42

NEN-EN-ISO 4254-11:2011**Landbouwmachines - Veiligheid - Deel 11: Opraappersen**

This part of ISO 4254, intended to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of self-propelled and trailed pick-up balers, including the combination of pick-up balers with wrappers, independent of the shape or size of the bales formed. It describes methods for the elimination or reduction of hazards arising from the intended use and reasonably foreseeable misuse of these machines by one person (the operator) in the course of normal operation and service. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. When requirements of this part of ISO 4254 are different from those which are stated in ISO 4254-1, the requirements of this part of ISO 4254 take precedence over the requirements of ISO 4254-1 for machines that have been designed and built according to the requirements of this part of ISO 4254. This part of ISO 4254, taken together with ISO 4254-1, deals with all the significant hazards (as listed in Table 1), hazardous situations and events relevant to self-propelled and trailed pick-up balers, including the combination of pick-up balers with wrappers, when they are used as intended and under the conditions of misuse that are reasonably foreseeable by the manufacturer (see Clause 4). This part of ISO 4254 is not applicable to pedestrian-controlled round balers, environmental hazards, road safety, vibration and hazards related to moving parts for power transmission. It is not applicable to hazards related to maintenance or repairs carried out by professional service personnel.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 4254-11:2011 en

€ 79.70

NEN-EN-ISO 4254-12:2012**Landbouwmachines - Veiligheid - Deel 12: Cirkelmaaiers en klepelmaaiers - Veiligheid**

This part of ISO 4254, to be used together with ISO/FDIS 4254-1:2004, specifies safety requirements and their verification for the design and construction of rotary mowers and flail-mowers with one or several vertical axes or a horizontal axis, mounted, semi-mounted, trailed or self-propelled. In addition, this document specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 4254-12:2012 en

€ 124.99

NEN-EN-ISO 4254-12:2012/A1:2017**Landbouwmachines - Veiligheid - Deel 12: Cirkelmaaiers en klepelmaaiers - Veiligheid**

Type C

NEN-EN-ISO 4254-12:2012/A1:2017 en

€ 14.49

NEN-EN-ISO 4254-14:2016**Landbouwmachines - Veiligheid - Deel 14: Balenpersen**

NEN-EN-ISO 4254-14 intended to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of mounted, semi-mounted, trailed, and stationary bale wrapper for bales of agricultural harvesting products including wrappers which are combined or integrated with pick-up balers. It describes methods for the elimination or reduction of hazards arising from the intended use and reasonably foreseeable misuse of these machines by one person (the operator) in the course of normal operation and service. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. When requirements of this part of ISO 4254 are different from those which are stated in ISO 4254-1, the requirements of this part of ISO 4254 take precedence over the requirements of ISO 4254-1 for machines that have been designed and built according to the requirements of this part of ISO 4254. This part of ISO 4254, taken together with ISO 4254-1, deals with all the significant hazards (as listed in Table 1), hazardous situations, and events relevant to mounted, semi-mounted, and trailed bale wrappers including wrappers which are combined with pick-up balers when they are used as intended and under the conditions of misuse that are reasonably foreseeable by the manufacturer (see Clause 4). This part of ISO 4254 is not applicable to the following: - non-mobile fixed bale wrappers; - tube/inline wrappers; - wrapping process that concerns only the circumferential part of the bale and that occurs in the bale chamber; - the integrity of safety related parts of control systems with regard to the specification of performance levels; - environmental hazards (except noise), road safety, and hazards related to moving parts for power transmission; This part of ISO 4254 is not applicable to machines manufactured before the date of its publication..- hazards related to maintenance or repairs carried out by professional service personnel. This part of ISO 4254 is not applicable to machines manufactured before the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 4254-14:2016 en

€ 124.99

NEN-EN-ISO 5395-1:2013**Tuingereedschap - Veiligheidseisen van verbrandingsmotor aangedreven grasmaaiers - Deel 1: Woordenlijst en algemene beproeving**

This part of ISO 5395 specifies terminology and common test methods used for verification of safety requirements for combustion engine powered rotary lawnmowers and cylinder lawnmowers including pedestrian-controlled (with or without sulky) and ride-on types (hereafter named "lawnmower"), and equipped with: - metallic cutting means and/or; - non-metallic cutting means with one or more cutting elements pivotally mounted on a generally circular drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting element of 10 J or more. This document does not apply to: - robotic and remote-controlled lawnmowers, flail mowers, grassland mowers, sickle bar mowers, towed/semi-mounted grass cutting machines, and scrub-clearing machines; - cutting-means assembly when used in combination with an agricultural tractor; - electrically powered and battery-powered lawnmowers.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 5395-1:2013 en

€ 143.10

NEN-EN-ISO 5395-2:2013

Tuingereedschap - Veiligheidseisen van verbrandingsmotor aangedreven grasmaaiers - Deel 2: Aangedreven grasmaaiers met meeopende bestuurder

This part of ISO 5395 specifies safety requirements and their verification for combustion-enginepowered pedestrian-controlled rotary lawnmowers and cylinder lawnmowers, including pedestriancontrolled mowers with a sulky having a seated operator (hereafter named "lawnmower"), and equipped with: - metallic cutting means; and/or - non-metallic cutting means with one or more cutting elements pivotally mounted on a generally circular drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting element of 10 J or more. This part of ISO 5395 does not apply to: - robotic and remote-controlled lawnmowers, flail mowers, grassland mowers, sickle bar mowers, towed/semi-mounted grass-cutting machines, and scrub-clearing machines; - electrically powered and battery-powered lawnmowers; - pedestrian-controlled lawnmowers with a swing-over handle.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 5395-2:2013 en

€ 124.99

NEN-EN-ISO 5395-2:2013/A2:2017

Tuingereedschap - Veiligheid van aangedreven grasmaaiers - Deel 2: Aangedreven grasmaaiers met meeopende bestuurder

Type C

NEN-EN-ISO 5395-2:2013/A2:2017 en

€ 14.49

NEN-EN-ISO 5395-3:2013

Tuingereedschap - Veiligheidseisen van verbrandingsmotor aangedreven grasmaaiers - Deel 3: Grasmaaiers met bestuurderszitplaats

This part of ISO 5395 specifies safety requirements and their verification for combustion-enginepowered ride-on (seated) rotary lawnmowers and cylinder lawnmowers (hereafter named "lawnmower"), and equipped with: - metallic cutting means; and/or - non-metallic cutting means with one or more cutting elements pivotally mounted on a generally circular drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting element of 10 J or more. This part of ISO 5395 does not apply to: - robotic and remote-controlled lawnmowers, flail mowers, grassland mowers, sickle bar mowers, towed/semi-mounted grass-cutting machines, and scrub-clearing machines; - cutting-means assembly when used in combination with an agricultural tractor; - electrically powered and battery-powered lawnmowers.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 5395-3:2013 en

€ 143.10

NEN-EN-ISO 5395-3:2013/A1:2017(Cor. 2017-04)

Tuingereedschap - Veiligheidseisen van verbrandingsmotor aangedreven grasmaaiers - Deel 3: Grasmaaiers met bestuurderszitplaats - Amendment 1: Bestuurder aanwezigheid detectie toestel, parkeer rem, Kantelbeveiligingsinrichting, slangen onder druk, snijmiddelen, gras verzamelingssystemen en test sonde

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 5395-3:2013/A1:2017(Cor. 2017-04) en

€ 14.49

NEN-EN-ISO 5674:2009

Trekkers en machines voor land- en bosbouw - Beschermingen voor aftaktussenassen - Sterkte- en slijtageproeven en acceptatiecriteria

This International Standard specifies laboratory tests for determining the strength and wear resistance of guards for power take-off (PTO) drive-shafts on tractors and machinery used in agriculture and forestry, and their acceptance criteria. It is intended to be used in combination with ISO 5673. It is applicable to the testing of PTO drive-shaft guards and their restraining means. It is not applicable to the testing of guards designed and constructed to be used as steps.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 5674:2009 en

€ 106.87

NEN-EN-ISO 10517:2009

Aangedreven draagbare heggenscharen - Veiligheid

This International Standard specifies safety requirements and their verification for the design and construction of hand-held, integrally-driven petrol combustion engine hedge trimmers, hereafter referred to as "hedge trimmers", designed to be used by a single operator for trimming hedges and bushes while utilizing one or more linear reciprocating cutter blades. It establishes methods for the elimination or reduction of hazards arising from the use of the trimmers. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices. This International Standard deals with all significant hazards, hazardous situations and events relevant to hand-held powered hedge trimmers when they are used as intended (see Clause 4). This International Standard does not deal with low noise design. It is not applicable to hedge trimmers with an engine displacement over 80 cm³, nor is it applicable to hedge trimmers manufactured before the date of its publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10517:2009 en

€ 143.10

NEN-EN-ISO 10517:2009/A1:2013

Aangedreven draagbare heggenscharen - Veiligheid

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10517:2009/A1:2013 en

€ 14.49

NEN-EN-ISO 11680-1:2011

Bosbouwmachines - Veiligheidseisen en beproeving voor aangedreven boomzagen - Deel 1: Apparaten voorzien van een integrale verbrandingsmotor

This part of ISO 11680 gives safety requirements and measures for their verification for the design and construction of portable, hand-held, pole-mounted powered pruners having an integral combustion engine as their power unit and using a drive shaft to transmit power to a cutting attachment consisting of a saw chain or a reciprocating or circular saw blade with a 205 mm maximum outside diameter. Methods for the elimination or reduction of hazards arising from the use of these machines and the type of information on safe working practices to be provided by the manufacturer are specified. This part of ISO 11680 deals with all significant hazards, hazardous situations or hazardous events with the exception of electric shock from contact with overhead electric lines (apart from warnings and advice for inclusion in the instruction handbook), relevant to these machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of ISO 11680 is applicable to portable, hand-held, pole-mounted powered pruners manufactured after its date of publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11680-1:2011 en

€ 79.70

NEN-EN-ISO 11680-2:2011

Bosbouwmachines - Veiligheidseisen en beproeving voor aangedreven boomzagen - Deel 2: Apparaten voor gebruik met een op de rug draagbare krachtbron

This part of ISO 11680 gives safety requirements and measures for their verification for the design and construction of portable, hand-held, pole-mounted powered pruners with a back-pack power unit and using a drive shaft to transmit power to a cutting attachment consisting of a saw chain or reciprocating or circular saw blade (hereafter referred to as "machine"). Methods for the elimination or reduction of hazards arising from the use of these machines and the type of information on safe working practices to be provided by the manufacturer are specified. This part of ISO 11680, together with the relevant sections of ISO 11680-1, deals with all significant hazards, hazardous situations or hazardous events with the exception of electric shock from contact with overhead electric lines (apart from warnings and advice for inclusion in the instruction handbook) and whole-body vibration from the back-pack power unit, relevant to these machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of ISO 11680 is applicable to portable, hand-held, pole-mounted powered pruners with back-pack power unit manufactured after its date of publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11680-2:2011 en

€ 34.42

NEN-EN-ISO 11681-1:2011

Bosbouwmachines - Draagbare kettingzagen - Veiligheidseisen en beproeving - Deel 1: Kettingzagen voor normale bosarbeid

This part of ISO 11681 gives safety requirements and measures for their verification for the design and construction of portable, combustion-engine, hand-held chain-saws, intended to be used for forest work by only one operator, by persons with the right hand on the rear handle and left hand on the front handle having read and understood the safety requirements provided in the instruction handbook and using the appropriate personal protective equipment (PPE). Methods for the elimination or reduction of hazards arising from the use of these machines and the type of information on safe working practices to be provided by the manufacturer are specified. This part of ISO 11681 deals with all significant hazards, hazardous situations and hazardous events, with the exception of kickback and balance for machines with an engine displacement of more than 80 cm³, relevant to these machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of ISO 11681 is applicable to chain-saws manufactured after its date of publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11681-1:2011 en

€ 106.87

NEN-EN-ISO 11681-2:2011

Bosbouwmachines - Veiligheidseisen en beproevingen van draagbare kettingzagen - Deel 2: Kettingzagen voor boomonderhoud

This part of ISO 11681 gives safety requirements and measures for their verification for the design and construction for tree service of portable, combustion-engine, hand-held chain-saws having a maximum mass - without guide bar or saw chain and with tanks empty - of 4,3 kg, intended to be used, with the right hand on the rear handle and left hand on the front handle, by a trained operator for pruning and dismantling standing tree crowns, and by persons having read and understood the safety requirements provided in the instruction handbook, using the appropriate personal protective equipment (PPE). Methods for the elimination or reduction of hazards arising from the use of these machines and the type of information on safe working practices to be provided by the manufacturer are specified. This part of ISO 11681 deals with all significant hazards, hazardous situations and hazardous events relevant to these machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of ISO 11681 is applicable to chain-saws manufactured after its date of publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11681-2:2011 en

€ 106.87

NEN-EN-ISO 11806-1:2011

Landbouw- en bosbouwmachines - Veiligheidseisen en beproeving voor draagbare, met de hand geleide, opslagmaaiers en graskantmaaiers - Deel 1: Machines met integrale verbrandingsmotoren

This part of ISO 11806 gives safety requirements and measures for their verification for the design and construction of portable hand-held, powered brush-cutters and grass-trimmers (hereafter called machines) having an integral combustion engine as their power unit and mechanical power transmission between the power source and the cutting attachment. Methods for the elimination or reduction of hazards arising from the use of these machines and the type of information on safe working practices to be provided by the manufacturer are specified. This part of ISO 11806 deals with all significant hazards, hazardous situations and hazardous events relevant to these machines, as well as when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of ISO 11806 is not applicable to machines equipped with metallic cutting attachments consisting of more than one piece, e.g. pivoting chains or flail blades. This part of ISO 11806 is applicable to portable, hand-held, powered brush-cutters and grass-trimmers manufactured after its date of publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11806-1:2011 en

€ 124.99

NEN-EN-ISO 11806-2:2011

Landbouw- en bosbouwmachines - Veiligheidseisen en beproeving voor draagbare, met de hand geleide, opslagmaaiers en graskantmaaiers - Deel 2: Machines met op de rug draagbare krachtbron

This part of ISO 11806 gives safety requirements and measures for their verification for the design and construction of portable, hand-held, powered brush-cutters and grass-trimmers with a back-pack-mounted combustion engine power source and mechanical power transmission between the power source and the cutting attachment. Methods for the elimination or reduction of hazards arising from the use of these machines and the type of information on safe working practices to be provided by the manufacturer are specified. This part of ISO 11806, taken together with the relevant clauses of ISO 11806-1 (see 4.1), deals with all significant hazards, hazardous situations and hazardous events, with the exception of whole-body vibration from the back-pack power unit, relevant to these machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of ISO 11806 is applicable to portable, hand-held, powered brush-cutters and grass-trimmers manufactured after its date of publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11806-2:2011 en

€ 34.42

NEN-EN-ISO 11850:2011

Bosbouwmachines - Veiligheidseisen

This International Standard specifies general safety requirements for self-propelled forestry machines and machines configured as forestry machines. It deals with all significant hazards, hazardous situations and events common to fellers, bunchers, delimiters, forwarders, log loaders, skidders, processors, harvesters, mulchers and multi-function versions of these machine types, as defined in ISO 6814, when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. It does not deal with hazards specific to individual machines, such as those related to specific attachments, and therefore its use will not alone be sufficient to address all significant hazards for a majority of the machines it covers. It does not deal with hazards related to chain shot, chain breakage on the upper side of the bar, lifting operation, remote control operation, the need for work lights or road safety. For vibration measurement, the test setup and work cycles are not dealt with; nor is the verification method for noise measurement addressed. It is not applicable to hazards related to maintenance or repairs carried out by professional service personnel. The list of significant hazards dealt with is given in Annex A. This International Standard is not applicable to machines manufactured before its date of publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11850:2011 en

€ 79.70

NEN-EN-ISO 11850:2011/A1:2016

Bosbouwmachines - Zelf-rijdende machines - Veiligheidseisen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11850:2011/A1:2016 en

€ 14.49

NEN-EN 12525:2000+A2:2010

Landbouwwerktuigen - Voorladers - Veiligheid

This European Standard specifies safety requirements and their verification for the design and construction of front loaders designed to be mounted on agricultural and forestry wheeled tractors (as defined in the Directive 2003/37/EC). Hazards related to mounting the lifting arms to the frame mounted on the tractor, and also hazards related to devices for mounting attachments to the arm are covered. Hazards related to mounting the frame to the tractor (carried out by the dealer of the loader and/or of the tractor), the mounted attachments and hazards due to loss of mechanical strength of the structure are excluded. Hazards related to the transport of passengers are not covered. This European Standard describes methods and requirements for the elimination or reduction of risks which need specific requirements to front loaders. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. The list of significant hazards dealt with in this standard is given in annex A. Annex A also indicates the hazards which have not been dealt with. This European Standard is not applicable to front loaders which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12525:2000+A2:2010 en

€ 61.30

NEN-EN 12733 Ontw.**Land- en bosbouwmachines - Motormaaiers met meeopende bestuurder - Veiligheid**

This European Standard specifies safety requirements and their verification for design and construction of pedestrian controlled motor mowers with rotary or reciprocating cutting blades used in agricultural, forestry and landscaping to cut and/or mulch grass or similar plants or scrub and woody vegetation. For the purposes of this standard the following types of pedestrian controlled machines are considered to be motor mowers: - flail mowers; - grassland mowers; - scrub clearing machines; - sickle bar mowers. This standard applies also to multipurpose machines when are used for cutting or mulching grass or scrub; when they are used for other operations (e.g. soil working, lawn-mowing) other standards may apply. This standard does not cover lawn mowers (see EN ISO 5395 part 1, 2), engine driven brush cutters and grass trimmers (see EN ISO 11806) or other lawn maintenance equipment. This standard describes methods for the elimination or reduction of hazards arising from the use of motor mowers. Additionally, it specifies the type of information to be provided by the manufacturer on safe working practices. Environmental aspects (except noise) have not been considered in this standard. This document is not applicable to motor mowers manufactured before the date of its publication.

Type C

NEN-EN 12733:2016 Ontw. en

€ 46.90

NEN-EN 12733:2001+A1:2009**Land- en bosbouwmachines - Motormaaiers met meeopende bestuurder - Veiligheid**

This standard specifies safety requirements and their verification for design and construction of pedestrian controlled motor mowers with rotary or reciprocating cutting blades used in agricultural, forestry and landscaping to cut and/or mulch grass or similar plants or scrub and woody vegetation. For the purposes of this standard the following types of pedestrian controlled machines are considered to be motor mowers: - flail mowers; - grassland mowers; - scrub clearing machines; - sickle bar mowers. This standard applies also to multipurpose machines when are used for cutting or mulching grass or scrub. This standard does not cover lawn mowers (see EN 836), engine driven brush cutters and grass trimmers (see EN ISO 11806) or other lawn maintenance equipment. This standard describes methods for the elimination or reduction of hazards arising from the use of motor mowers. Additionally, it specifies the type of information to be provided by the manufacturer on safe working practices. Environmental aspects have not been considered in this standard. This standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 12733:2001+A1:2009 en

€ 98.50

NEN-EN 12965 Ontw.**Trekkers en machines voor land- en bosbouw - Aftaktussenassen en hun beschermkappen - Veiligheid**

This European Standard specifies safety requirements and their verification for the design and construction of power take-off (PTO) drive shafts and their guards linking a tractor or self-propelled machinery to the first fixed bearing of recipient machinery, by describing methods for the elimination or reduction of risks which need specific requirements. It is applicable only to those PTO drive shafts and guards mechanically linked to the shaft by at least two bearings. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. This European Standard does not deal with: - the guards totally covering, but not mechanically linked to, the PTO drive shaft; - the mechanical characteristics of PTO drive shafts, overrun devices and torque limiters; - general hazards which are dealt with in EN ISO 4254-1:2015 (see introduction); Environmental aspects have not been considered in this standard. This document is not applicable to PTO drive shafts and their guards which are manufactured before the date of publication of this document by CEN.

Type C

NEN-EN 12965:2017 Ontw. en

€ 29.20

NEN-EN 12965:2003+A2:2009**Trekkers en machines voor land- en bosbouw - Aftaktussenassen en hun beschermkap pen - Veiligheid**

This standard specifies safety requirements and their verification for the design and construction of power take-off (PTO) drive shafts and their guards linking self-propelled machinery (or tractor) to the first fixed bearing of recipient machinery, by describing methods for the elimination or reduction of risks which need specific requirements. This standard concerns only the PTO drive shafts and those guards which are mechanically linked to the PTO drive shaft by at least two bearings. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. This standard does not deal with: the guards totally covering, but not mechanically linked to, the PTO drive shaft. As these devices are not at present widely established on the market, they should be dealt with in a future revision of this standard; the mechanical characteristics of PTO drive shafts, overrun devices and torque limiters; general hazards which are dealt with in EN 1553 (see introduction). Environmental aspects have not been considered in this standard. This document is not applicable to PTO drive shafts and their guards which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12965:2003+A2:2009 en

€ 49.30

NEN-EN 13118:2000+A1:2009**Landbouwmachines - Aardappeloogstmachines - Veiligheid**

This standard specifies specific safety requirements and their verification for the design and construction of potato harvesting machines trailed, mounted or self-propelled which carry out one or more of the following operations: haulm chopping, lifting, picking-up, cleaning, conveying and unloading of potatoes. This standard is applicable for machines which can be used without modification for harvesting of other crops. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. The list of significant hazards dealt with in this standard is given in Annex A. Annex A also indicates the hazards which have not been dealt with. Environmental aspects have not been considered in this standard. This standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13118:2000+A1:2009 en

€ 61.30

NEN-EN 13140:2000+A1:2009**Landbouwmachines - Oogstmachines voor suikerbieten en voederbieten - Veiligheid**

This standard specifies specific safety requirements and their verification for the design and construction of all sugar beet and fodder beet harvesting machines trailed, mounted or self-propelled which carry out one or more of the following operations: leaf stripping, topping, lifting, picking-up, cleaning, conveying and unloading of beet. This standard is not applicable to cleaner-loaders which operate from a heap of beet. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. The list of significant hazards dealt with in this standard is given in Annex A. Annex A also indicates the hazards which have not been dealt with. Environmental aspects have not been considered in this standard. This standard applies primarily to machines which are manufactured after the date of issue of the standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13140:2000+A1:2009 en

€ 61.30

NEN-EN 13448:2002+A1:2009**Land- en bosbouwmachines - Maaiers tussen de rijen - Veiligheid**

This European Standard specifies the safety requirements and test methods for the design and construction of inter-row mowing units with vertical spindles mounted on grass cutting machines such as flail mowers, used in agriculture, forestry and landscaping to cut the grass in the area between two successive obstruction. It describes methods for elimination or reduction of risks arising from their use. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. This standard is not applicable to rotary mowers and flail-mowers which are covered by EN 745. Environmental aspects have not been considered in this standard. This European Standard is not applicable to inter-row mowing units which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13448:2002+A1:2009 en

€ 49.30

NEN-EN 13525:2005+A2:2009**Bosbouwmachines - Houtversnipperaars - Veiligheid**

This document specifies safety requirements and their verification for design and construction of transportable, i.e. self-propelled, mounted, semi-mounted and trailed, wood chippers used in forestry, agriculture, horticulture and landscaping. !This document applies to chippers, used when stationary, which are manually loaded with wood through a horizontal or near horizontal infeed chute and where the infeed action is performed by the chipping components acting as infeed components or by separate integrated infeed components such as rollers or chain conveyors integral to the infeed chute. The included wood chippers may be powered either by an external power take-off, hydraulics etc. or by an integral power source such as an internal combustion engine. This document deals with all significant hazards, hazardous situations and events relevant to wood chippers, when they are used as intended and under the conditions foreseen by the manufacturer (see Annex A). In addition, it specifies the type of information to be provided by the manufacturer on the safe use of these machines. engine."

Type C 2006/42/EG Geverifieerd

NEN-EN 13525:2005+A2:2009 en

€ 74.30

NEN-EN 13525:2018 Formal Vote**Bosbouwmachines - Houtversnipperaars - Veiligheid**

This document specifies safety requirements and their verification for design and construction of, i.e. self-propelled, mounted, semi-mounted and trailed, wood chippers used in forestry, agriculture, horticulture and landscaping. This document applies to chippers, used when stationary, which are manually loaded with wood through a horizontal or near horizontal infeed chute and where the infeed action is performed by the chipping components acting as infeed components or by separate integrated infeed components such as rollers or conveyors integral to the infeed chute. Wood chippers may be powered either by an external power take-off, hydraulics etc. or by an integral power source such as an internal combustion engine. This document does not cover: - requirements relating to national road regulations arising from transport between work sites; - hazards arising from any self-propelled function; - hazards arising from the transmission of power from an external power source - e.g. power take-off drive shafts; - any machines where the infeed chute is fitted with an extension table or an integrated conveyor that is protruding beyond the outermost lower edge of the infeed chute; - hazards arising from the engine pull starting of an integral power source; - hazards arising from mechanical loading; - vertical infeed chute chippers; - electromagnetic aspects of the chippers; - shredders/chippers to be covered by EN 13683; - any machines that can be only mechanically loaded; - additional mechanical discharge systems for woodchips which are not part of the chipping mechanism e.g. conveyors. This document deals with all significant hazards, hazardous situations and events relevant to wood chippers, when they are used as intended and under the conditions foreseen by the manufacturer (see Annex A). In addition, it specifies the type of information to be provided by the manufacturer on the safe use of these machines. It is not applicable to environmental hazards (except noise). This document is not applicable to wood chippers which are manufactured before the date of publication of this document by CEN.

Type C

NEN-EN 13525:2016 Ontw. en

€ 41.00

NEN-EN 13683:2003+A2:2011**Tuingereedschap - Aangedreven bosmaaiers/versnipperaars - Veiligheid**

This European Standard specifies safety requirements and their verification for the design and construction of hand fed, shredders/chippers with integral power source and with or without vacuum assisted collection which are designed primarily to reduce organic material to smaller pieces. It is only applicable to shredders/chippers that are designed for use outdoors in a stationary position by an operator standing on the ground. This standard applies to shredders/chippers with feed intake openings or segments, in this standard referred to as feed safety openings and being of any shape complying with the safety distance requirements of this standard with regard to contact with the cutting means, that in total will fit into a square of 250 mm x 250 mm measured at the plane of the opening. This standard describes methods of elimination or reduction of hazards arising from the use of shredders/chippers. In addition it specifies the type of information to be provided by the manufacturer on safe working practices. This standard does not cover requirements for: - units driven by an external power source; - mobile use of units which can be used in both stationary and mobile modes; - units with powered discharge intended to broadcast material or load vehicles; - units with separate mechanically powered feed intake or attachments; - units with cutting means of either one or more non-metallic filaments, or one or more non-metallic cutting elements pivotally mounted on a generally circular central drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting means of less than 10 J; - electrical powered and battery-powered shredders/chippers. Environmental hazards and EMC have not been considered in this standard. This standard deals with all significant hazards, hazardous situations and events relevant to shredders/chippers, when they are used as intended (see clause 4). This document is not applicable to shredders/chippers which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13683:2003+A2:2011 en

€ 86.00

NEN-EN 13683:2003+A2:2011/C1:2013**Tuingereedschap - Aangedreven bosmaaiers/versnipperaars - Veiligheid**

Type C 2006/42/EG Geverifieerd

NEN-EN 13683:2003+A2:2011/C1:2013 en

€ 0.00

NEN-EN 13684 Ontw.**Tuingereedschap - Lopend bediende grasmatbeluchters en verticateermachines - Veiligheid**

This European Standard specifies safety requirements and their verification for the design and construction of pedestrian controlled integrally powered lawn aerators and scarifiers which are designed for re-generating lawns by, for instance, combing out grass, thatch and moss or cutting vertically into the lawn face using tines which rotate about a horizontal axis. It describes methods of elimination or reduction of hazards arising from their use. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices. Throughout this document, the term "machine" applies to those machines known as aerators, scarifiers, corers, lawn rakes or grass rakes.

Type C

NEN-EN 13684:2015 Ontw. en

€ 41.00

NEN-EN 13684:2004+A3:2010**Tuingereedschap - Lopend bediende grasmatbeluchters en verticateermachines - Veiligheid**

This European Standard specifies safety requirements and their verification for the design and construction of pedestrian controlled integrally powered lawn aerators and scarifiers which are designed for re-generating lawns by, for instance, combing out grass, thatch and moss or cutting vertically into the lawn face using tines which rotate about a horizontal axis. It describes methods of elimination or reduction of hazards arising from their use. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices. Throughout this standard, the term "machine" applies to those machines known as aerators, scarifiers, corers, lawn rakes or grass rakes.

Type C 2006/42/EG Geverifieerd

NEN-EN 13684:2004+A3:2010 en

€ 74.30

NEN-EN 14017:2005+A2:2009**Landbouw- en bosbouwmachines - Strooiers voor vaste kunstmeststoffen - Veiligheid**

This European Standard, applied together with EN 1553:1999, specifies the safety requirements and their verification for the design and construction of mounted, semi-mounted, trailed or self-propelled fertilizer distributors for solid fertilizer application, i.e. full width solid fertilizer distributors, solid fertilizer broadcasters, distributors with oscillating tube and line-distributors as well as solid fertilizer distributors driven by an auxiliary engine to be used by one operator only, used in agriculture, horticulture and in forestry. In addition, this European Standard specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this European Standard are different from those which are stated in EN 1553:1999 the requirements of this European Standard take precedence over the requirements of EN 1553:1999 for machines that have been designed and built according to the provisions of this European Standard. It does not apply to: combined seed and fertilizer drills; machines for distributing granulated pesticides; pedestrian controlled distributors; knapsack distributors. This European Standard deals with all the significant hazards, hazardous situations and events relevant to solid fertilizer distributors, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4), excepting the hazards arising from: inadequate lighting of moving/working area; inadequate visibility from drivers/operators position; inadequate seating; travelling functions (drive, braking etc.); rolling over; equipment for loading fertilizer into the machine; an auxiliary engine. It is not applicable to electromagnetic compatibility (EMC) nor to environmental hazards (except noise). These aspects are covered by EN 13739-1:2003, EN 13739-2:2003, EN 13740-1:2003 and EN 13740-2:2003. This European Standard is not applicable to solid fertilizer distributors which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 14017:2005+A2:2009 en

€ 61.30

NEN-EN 14018:2005+A1:2009**Landbouw- en bosbouwmachines - Zaaimachines - Veiligheid**

This European Standard, applied together with EN 1553:1999, specifies the safety requirements and their verification for design and construction of mounted, semi-mounted, trailed or self-propelled seed drills, including the seeding function of combined seed and fertilizer drills, used in agriculture and in forestry. In addition, this European Standard specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this European Standard are different from those which are stated in EN 1553:1999 the requirements of this European Standard take precedence over the requirements of EN 1553:1999 for machines that have been designed and built according to the provisions of this European Standard. It does not apply to: - fertilizer distributors designed only for solid fertilizer application (dealt with in EN 14017); - seed drills with integrated and inseparable powered soil working tools (see 3.2). This European Standard deals with all the significant hazards, hazardous situations and events relevant to seed drills, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4), excepting the hazards arising from: - electrostatic phenomena; - external influences on electrical equipment; - failure of energy supply; - failure, malfunction of control system; - inadequate visibility from drivers/operators position; - travelling functions (drive, braking etc.); - break-up of parts rotating at high speed; - equipment for loading seeds (and fertilizer). It is not applicable to electromagnetic compatibility (EMC) nor to environmental hazards (except noise). These aspects are covered by EN 13740-1:2003 and EN 13740-2:2003 for combined seed and solid fertilizer drills. This European Standard is not applicable to seed drills which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 14018:2005+A1:2009 en

€ 61.30

NEN-EN 14910:2007+A1:2009**Tuingereedschap - Handgeleide maaiers aangedreven door een verbrandingsmotor - Veiligheid**

This European Standard deals with all significant hazards, hazardous situations and events relevant to walk-behind trimmers, powered by a combustion engine, with cutting means using non-metallic filament line or freely pivoting non-metallic cutter(s), of which the cutting elements rely on centrifugal force to achieve cutting with the kinetic energy of a single cutting element not exceeding 10 J, designed for cutting grass or similar plant material, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 14910:2007+A1:2009 en

€ 74.30

NEN-EN 14930:2007+A1:2009**Landbouw- en bosbouwmachines en tuingereedschap - Lopend bediende en met de hand geleide machines - Bepaling van de toegankelijkheid van verhitte oppervlakken**

This European Standard specifies a method for combustion engine driven pedestrian controlled and handheld machines with or without back pack power unit used in agriculture, forestry and gardening to determine those parts of the surfaces identified by the product specific standards that are hot surfaces and can be touched unintentionally by an operator during normal operation. This European Standard is only applicable together with product specific standards for the categories of machines specified above. This European Standard does not specify which surfaces shall be assessed.

Type C 2006/42/EG Geverifieerd

NEN-EN 14930:2007+A1:2009 en

€ 49.30

NEN-EN-ISO 14982:2009**Land- en bosbouwmachines - Elektromagnetische compatibiliteit - Beproevingsmethoden en aanvaardingscriteria**

This International Standard specifies test methods and acceptance criteria for evaluating the electromagnetic compatibility of tractors and all kinds of mobile (including hand-held) agricultural machinery, forestry machinery, landscaping and gardening machinery [referred to hereafter as machine(s)] as supplied by the machine manufacturer. It is applicable to machines and electrical/electronic sub-assemblies (ESA's) which are manufactured after the date of publication of this International Standard. Electrical/electronic components or sub-assemblies intended for fitting in machines are also within the scope of this standard, except regarding immunity for those parts whose functions are not involved in the direct control and modification of the state of the functions of the machine. This International Standard is not applicable to machines directly supplied with low voltage current from public electrical mains. Exceptions to machines or electrical/electronic systems or ESA's that may not require testing in accordance with this International Standard are given in clause 7.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 14982:2009 en

€ 143.10

NEN-EN 15503:2009+A2:2016**Tuingereedschap - Tuinblazers, tuinstofzuigers en stofzuigerblazercombinaties - Veiligheid**

NEN-EN 15503+A2 specifies the safety requirements and their verification for the design and construction of hand-held combustion engine powered and back-pack combustion engine powered, garden vacuums and garden blower/vacuums with or without shredding means and garden blowers, designed for one operator only. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. Throughout this European Standard the term 'machine' is used to mean all the types of garden blowers and vacuums covered by it. This European Standard deals, with all hazards, hazardous situations and events relevant to these machines when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4), except for: - vibration of backpack machines; - structural integrity for blowers and blower vacuums; - strength for harnesses and back-pack supports. This European Standard is not applicable to: - walk-behind, hand-guided (support-wheeled) and ride-on machines; - mains driven and battery powered blowers and vacuums or combinations thereof;

Type C 2006/42/EG Geverifieerd

NEN-EN 15503:2009+A2:2016 en

€ 74.30

NEN-EN 15695-1:2017

Landbouwtractoren en zelfrijdende machines - Bescherming tegen gevaarlijke stoffen - Deel 1: Classificatie van de cabine, eisen en beproeingsprocedures

NEN-EN 15695-1 is applicable to cabs of agricultural and forestry tractors and self-propelled sprayers. Its purpose is to limit the exposure of the operator (driver) to hazardous substances when applying plant protection products (PPP) and liquid fertilisers. This European Standard specifies different categories of cabs of agricultural and forestry tractors and self-propelled sprayers and the relevant requirements and test procedures in order to limit the exposure of the operator (driver) to hazardous substances when inside the cab. It also specifies the information to be provided by the tractor or self-propelled sprayer manufacturer. This document does not cover: - the exposure linked to fumigants; - the category of cab and performance level to be used for any particular application; - the actual cab performance in the field applications; - the field durability of filters. This document is not applicable to tractor cabs which are manufactured before the date of its publication as an EN.

Type C

NEN-EN 15695-1:2017 en

€ 61.30

NEN-EN 15695-2:2017

Landbouwtractoren en zelfrijdende machines - Bescherming tegen gevaarlijke stoffen - Deel 2: Filters, eisen en testprocedures

NEN-EN 15695-2 is applicable to filters as part of cabs of categories 2, 3 and 4 of agricultural and forestry tractors and self-propelled sprayers as specified in EN 15695-1 in order to limit the exposure of the operator (driver) to hazardous substances, in agricultural and forestry operations. It specifies requirements, test procedures and the information to be provided by the filter manufacturer. This standard does not cover: - the exposure linked to fumigants; - the category of cab and performance level to be used for any particular application; - the actual cab performance in the field applications; - field durability of filters or filtration systems. This document is not applicable to filters which are manufactured before the date of its publication as EN.

Type C

NEN-EN 15695-2:2017 en

€ 34.50

NEN-EN 15811:2014

Landbouwmachines - Vaste beschermkappen en niet-vast beschermkappen met en zonder borging voor aangedreven draaiende delen

NEN-EN 15811 specifies the safety requirements and their verification for the design and construction of fixed guards to be opened or removed by the use of a tool and interlocking guards with or without guard locking for moving parts of the power transmission on self-propelled ride-on machines and mounted, semi-mounted or trailed machines used in agriculture. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. It deals with the significant hazards (as listed in Annex A), hazardous situations and events relevant for fixed guards to be opened or removed by the use of a tool and interlocking movable guards of moving parts of power transmission used as intended and under the conditions reasonably foreseeable by the manufacturer (see Clause 4 and Clause 5). It is not applicable to guards of moving parts of the power transmission of: - agricultural and forestry tractors, - aircraft and air cushion vehicles used in agriculture, - lawn and garden equipment, or - PTO drive shafts between agricultural and forestry tractors and mounted or towed implements.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15811:2014 en

€ 34.50

NEN-EN-ISO 16119-1:2013

Land- en bosbouwmachines - Milieueisen voor spuitmachines - Deel 1: Algemeen

This part of ISO 16119 specifies general requirements for the design and performance of sprayers, as defined in ISO 5681, with regard to minimizing the potential risk of environmental contamination during use, including misuse foreseeable by the manufacturer. It also specifies the requirements for identification of the sprayer and certain of its components, and the minimum content of the instruction handbook. It is intended to be used with each of the other parts of ISO 16119, which give requirements specific to particular types of sprayers (see Annex A). This part of ISO 16119 is applicable to all types of sprayers used in agriculture, horticulture, forestry and other areas, except knapsack sprayers. It does not cover safety aspects (see ISO 4254-6).

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 16119-1:2013 en

€ 52.53

NEN-EN-ISO 16119-3:2013

Land- en bosbouwmachines - Milieueisen voor spuitmachines - Deel 3: Spuitmachines voor struik- en boomvormige gewassen

This part of ISO 16119 specifies requirements and the means for their verification for the design and performance of sprayers for bush and tree crops, as defined in 3.1, and similar crops, with regard to minimizing the potential risk of environmental contamination during use, including misuse foreseeable by the manufacturer. It is not applicable to human-mounted sprayers for bushes or trees. It is intended to be used with ISO 16119-1, which gives general requirements common to all the sprayer types covered by ISO 16119. When requirements of this part of ISO 16119 are different from those which are stated in ISO 16119-1, the requirements of this part of ISO 16119 take precedence over the requirements of ISO 16119-1 for machines within the scope of this part of ISO 16119. This part of ISO 16119 does not cover safety aspects (see ISO 4254-6). This part of ISO 16119 is not applicable to sprayers manufactured before the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 16119-3:2013 en

€ 52.53

NEN-EN-ISO 16119-4:2014

Land- en bosbouwmachines - Milieueisen voor spuitmachines. Deel 4: Vast opgestelde en semi-mobiele spuitmachines

NEN-EN-ISO 16119-4 specifies requirements and the means for their verification for the design and performance of fixed and semi-mobile sprayers, as defined in 3.1 and 3.2, with regard to minimizing the potential risk of environmental contamination during use, including misuse foreseeable by the manufacturer. This type of spraying system is generally a combination of separate elements (main tank, pump and application unit) that can be assembled in fixed installations (fixed sprayers) or with moving parts (semi-mobile sprayers). It does not apply to application equipment for space/spatial treatments. It is intended to be used with ISO 16119-1, which gives general requirements common to all the sprayer types covered by ISO 16119. When requirements of this part of ISO 16119 are different from those stated in ISO 16119-1, the requirements of this part of ISO 16119 take precedence over the requirements of ISO 16119-1 for machines within the scope of this part of ISO 16119. This part of ISO 16119 does not cover safety aspects (see ISO 4254-6). This part of ISO 16119 is not applicable to sprayers manufactured before the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 16119-4:2014 en

€ 53.74

NEN-EN-ISO 16230-1:2015

Landbouwmachines en tractoren - Veiligheid van elektrische en elektronische onderdelen en systemen met een hoger voltage - Deel 1: Algemene eisen

NEN-EN-ISO 16230-1 is applicable to tractors and self-propelled ride-on machines, mounted implements, and towed implements used in agriculture and forestry. This part of ISO 16230 specifies general requirements that relate to the protection and safety of operators and bystanders on machines with onboard voltages in the range of 50 V AC to 1000 V AC and 75 V DC to 1500 V DC. This part of ISO 16230 applies to electrical equipment and parts of the electrical equipment on such machines and includes general requirements related to the protection and safety of operators, bystanders, and first responders. This part of ISO 16230 deals with significant hazards, hazardous situations, and events, as listed in Annex A, relevant to this agricultural machinery when used as intended and under the conditions of misuse foreseeable by the manufacturer during normal operation and service. This part of ISO 16230 is not applicable to the following: - specific design elements of external interfaces (e.g. the interface between a tractor and implement); - externally powered equipment (e.g. line powered equipment, equipment without on-board power generation); - purpose built forestry machines; - stationary electrical generators. This part of ISO 16230 is not applicable to machines which are manufactured before the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 16230-1:2015 en

€ 79.70

NEN-EN-ISO 16231-1:2013

Zelfrijdende landbouwmachines - Beoordeling van de stabiliteit - Deel 1: Beginselen

This International Standard specifies principles for the assessment of stability with respect to the design and construction of self-propelled ride-on machines used in agriculture and the hazard of rolling-over or tipping-over, or both when the machine is used as intended and under the conditions foreseen by the manufacturer. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. This part of ISO 16231 is not applicable to: - machines with an unladen mass lower than 400 kg; - machines covered by other machine specific standards dealing with the protection against rollover and tip-over (e.g. agricultural tractors, forestry tractors); - hazards associated with road transport operations; - free fall events; - rollover as a result of impact collisions. This part of ISO 16231 is not applicable to machines manufactured before the date of its publication.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 16231-1:2013 en

€ 34.42

NEN-EN-ISO 16231-2:2015

Zelfrijdende landbouwmachines - Beoordeling van de stabiliteit - Deel 2: Bepaling van de statische stabiliteit en beproeingsprocedures

NEN-EN-ISO 16231-2 specifies a method to determine the centre of gravity of un-laden self-propelled machines, a method to determine the centre of gravity of laden machines and combinations with attachments, and methods to determine the static overturning angle.

Type C

NEN-EN-ISO 16231-2:2015 en

€ 106.87

NEN-EN 16246:2012

Landbouwmachines - Dieplepels - Veiligheid

This European Standard, when used together with EN ISO 4254-1 and EN 15811, specifies the safety requirements and their verification for the design and construction of hydraulic backhoes mounted to the three point linkage of a tractor. It describes methods for the elimination or reduction of hazards arising from the intended use of these machines by one person (the operator) in the course of normal operation and service. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this document are different from those which are stated in EN ISO 4254-1, the requirements of this document take precedence over the requirements of EN ISO 4254-1 for machines that have been designed and built according to the provisions of this document. This European Standard, taken together with EN ISO 4254-1, deals with all the significant hazards, hazardous situations and events (as listed in Table 1) relevant to hydraulic backhoes mounted to the three point linkage of a tractor, when they are used as intended and under the conditions of misuse foreseeable by the manufacturer. This European Standard is not applicable to lifting operations for the movement of unit loads with hooks or other similar devices. Materials connected with excavation activities are not intended as unit loads and their movement is covered by this standard. This European Standard does not give requirements for quick hitch devices. This European Standard is not applicable to hydraulic backhoes which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16246:2012 en

€ 61.30

NEN-EN 16517 Ontw.

Machines voor land- en bosbouw - Mobiele yarders voor verwijdering van schors van boomstammen - Veiligheid

This European Standard gives safety requirements, and the means of verification, for the design and construction of mobile yarders for logging of forest products and their mounting. It counts for all logging operations with cable yarders both in sloped and flat terrain. In addition, it specifies the type of information on safe working practices (including residual risks) meant to be provided by the manufacturer. It deals with the significant hazards (as listed in Table 1), hazardous situations and events relevant to mobile yarders used as intended and under the conditions foreseen by the manufacturer (see Clauses 4 and 5). It is not applicable to: - rope splicing; - ancillary loaders or cable cranes; - cableways for material transport (other than wood); and - skidder winches (skidding). The specifications of cabin in this context are only relevant for the yarder or a yarder-loader combination. The cabin and the chassis of the vehicle (prime mover), to which the yarder is mounted are not part of this document. The Document deals with all the significant hazards (as listed in Table 1), hazardous situations and events relevant to mobile yarders when they are used as intended and under the conditions of misuse reasonably foreseeable by the manufacturer (see Clauses 4 and 5). This document is not applicable to mobile yarders manufactured before the date of its publication.

Type C

NEN-EN 16517:2017 2e Ontw. en

€ 29.20

NEN-EN 16590-1:2014

Trekkers en machines voor land- en bosbouw - Veiligheidsgerelateerde onderdelen van besturingssystemen - Deel 1: Algemene beginselen voor ontwerp en ontwikkeling

NEN-EN 16590-1 sets out general principles for the design and development of safety-related parts of control systems (SRP/CS) on tractors used in agriculture and forestry and on self-propelled ride-on machines and mounted, semi-mounted and trailede machines used in agriculture. It can also be applied to municipal equipment (e.g. street-sweeping machines). It specifies the characteristics and categories required of SRP/CS for carrying out their safety functions. This part of EN 16590 is applicable to the safety-related parts of electrical/electronic/programmable electronic systems (E/E/PES), as these relate to mechatronic systems. It does not specify which safety functions, categories or performance levels are to be used for particular machines. Machine specific standards (type-C standards) can identify performance levels and/or categories or they should be determined by the manufacturer of the machine based on risk assessment.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16590-1:2014 en

€ 61.30

NEN-EN 16590-2:2014

Trekkers en machines voor land- en bosbouw - Veiligheidsgerelateerde onderdelen van besturingssystemen - Deel 2: Concept fase

NEN-EN 16590-2 specifies the concept phase of the development of safety-related parts of control systems (SRP/CS) on tractors used in agriculture and forestry, and on self-propelled ride-on machines and mounted, semi-mounted and trailede machines used in agriculture. It can also be applied to municipal equipment (e.g. street-sweeping machines). It specifies the characteristics and categories required of SRP/CS for carrying out their safety functions. This part of EN 16590 is applicable to the safety-related parts of electrical/electronic/programmable electronic systems (E/E/PES), as these relate to mechatronic systems. It does not specify which safety functions, categories or performance levels are to be used for particular machines. Machine specific standards (type-C standards) can identify performance levels and/or categories or they should be determined by the manufacturer of the machine based on risk assessment.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16590-2:2014 en

€ 74.30

NEN-EN 16590-3:2014

Trekkers en machines voor land- en bosbouw - Veiligheidsgerelateerde onderdelen van besturingssystemen - Deel 3: Series ontwikkeling, hardware en software

NEN-EN 16590-3 provides general principles for the series development, hardware and software of safety-related parts of control systems (SRP/CS) on tractors used in agriculture and forestry, and on self-propelled ride-on machines and mounted, semi-mounted and trailede machines used in agriculture. It can also be applied to municipal equipment (e.g. street-sweeping machines). It specifies the characteristics and categories required of SRP/CS for carrying out their safety functions. This part of EN 16590 is applicable to the safety-related parts of electrical/electronic/programmable electronic systems (E/E/PES), as these relate to mechatronic systems. It does not specify which safety functions, categories or performance levels are to be used for particular machines. Machine specific standards (type-C standards) can identify performance levels and/or categories or they should be determined by the manufacturer of the machine based on risk assessment.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16590-3:2014 en

€ 86.00

NEN-EN 16590-4:2014

Trekkers en machines voor land- en bosbouw - Veiligheidsgerelateerde onderdelen van besturingssystemen - Deel 4: Productie, bewerking, wijziging en ondersteunende processen

NEN-EN 16590-4 provides general principles for the production, operation, modification and supporting processes of safety-related parts of control systems (SRP/CS) on tractors used in agriculture and forestry, and on self-propelled ride-on machines and mounted, semi-mounted and trailede machines used in agriculture. It can also be applied to municipal equipment (e.g. street-sweeping machines). It specifies the characteristics and categories required of SRP/CS for carrying out their safety functions. This part of EN 16590 is applicable to the safety-related parts of electrical/electronic/programmable electronic systems (E/E/PES), as these relate to mechatronic systems. It does not specify which safety functions, categories or performance levels are to be used for particular machines. Machine specific standards (type-C standards) can identify performance levels and/or categories or they should be determined by the manufacturer of the machine based on risk assessment.

Type C

NEN-EN 16590-4:2014 en

€ 61.30

NEN-EN 16952 Ontw.**Landbouwwerktuigen - ruw-terrein werk platforms voor boomgaard werkzaamheden - veiligheid**

This European Standard, when used together with EN ISO 4254-1 and EN 15811, specifies safety requirements and measures for all types and sizes of self-propelled rough-terrain work platforms for orchard's operations (WPO) as defined in 3.1, used in agriculture, designed to work on unimproved natural terrain and/or disturbed terrain and intended to move at least two persons to working positions in an orchard where they are carrying out fruit picking, thinning out, pruning, or other operations related to orchard's upkeep from the work platform with the intention that persons are getting on and off the work platform only at access positions at ground level or on the chassis. It describes methods for the elimination or reduction of hazards arising from the intended use of these machines by at least two persons (operators) in the course of normal operation and service, except hazards related to conveyor belts and forks. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. When requirements of this document are different from those which are stated in EN ISO 4254-1, the requirements of this document take precedence over the requirements of EN ISO 4254-1 for machines that have been designed and built according to the provisions of this document. This European Standard, taken together with EN ISO 4254-1 and EN 15811, deals with all the significant hazards, hazardous situations and events (as listed in Table 1) relevant to WPOs, when they are used as intended and under the conditions of misuse foreseeable by the manufacturer. It does not cover the hazards arising from: a) use in potentially explosive atmospheres; b) getting on and off the work platform at changing levels. This European Standard does not apply to: a) Mobile c) tail lifts (see EN 1756-1 and EN 1756-2); d) mast climbing work platforms (see EN 1495); e) lifting tables (see EN 1570-1); f) aircraft ground support equipment (see e.g. EN 1915-1 and EN 1915-2); g) elevating operator positions on industrial trucks (see EN 1726-2); h) unguided work cages suspended from lifting appliances (see e.g. EN 1808).

Type C

NEN-EN 16952:2016 Ontw. en

€ 46.90

NEN-EN 17067 Ontw.**Machines voor Bosbouw - Veiligheidseisen voor radiografische afstandsbediening**

This European standard specifies the additional requirements for cableless control systems that are used in forestry machinery. The fundamental requirements are defined in the standard prEN 62745. Cableless control systems for the following forestry machines are treated in this standard: - forestry cable winches according to ISO 19472, winches for log splitters; - self-propelled machinery for forestry according to EN ISO 11850 (machines for felling, moving and debranching, forwarders, log loaders, skidders, processors, harvesting machines, mulchers as well as multipurpose machines of these construction types, as described in ISO 6814); the definitive part of the standard defines essential requirements for the driving function of the machine; - mobile yarders for timber logging corresponding to prEN 16517; - log splitters and combined firewood splitters according to EN 609-1:2016, 5.9.2.1 Chipping machines according to EN 13525 and chipping machines with mechanical feed systems for the production of woodchips and shredding /grinding machines; - forestry boom loader and similar devices that are used on self-propelled machinery and trailers for forestry according to EN ISO 11850 and, as indicated above, for timber transport, timber loading, the loading of forestry goods or forestry products as well as for the handling and arrangement of timber harvesters, felling attachments, machines for felling and moving, attachments, saw heads, gripper-saw combinations with or without load or similar devices and machines, insofar they are not treated in EN 12999. Forestry boom loader can be a component of the forestry machine on which they are mounted.

Type C

NEN-EN 17067:2017 Ontw. en

€ 29.20

NEN-EN-ISO 19932-1:2013**Apparatuur voor gewasbescherming - Rugsuiten - Deel 1: Veiligheid en milieueisen**

This part of ISO 19932 specifies the safety and environmental requirements and their means of verification for the design and construction of knapsack sprayers carried on the back or shoulder of the operator for use with plant protection products. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer. It is applicable to lever-operated knapsack sprayers, knapsack compression sprayers and knapsack sprayers driven by an engine or electric motor using hydraulic pressure atomisation of the spray liquid, with a nominal volume of more than 3 l, for their intended use primarily in agriculture and horticulture. It does not apply to knapsack mistblowers according to ISO 28139. This part of ISO 19932 deals with all significant hazards, hazardous situations and hazardous events relevant to knapsack sprayers when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex A), excepting the hazards arising from: - static electricity; - explosion or fire from chemicals for spraying; and - insufficient structural integrity. This document is not applicable to knapsack sprayers which are manufactured before the date of publication of this document.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 19932-1:2013 en

€ 79.70

NEN-EN-ISO 19932-2:2013**Apparatuur voor gewasbescherming - Rugsuiten - Deel 2: Beproevingsmethoden**

This part of ISO 19932 specifies test methods for the verification of requirements of ISO 19932-1 for knapsack sprayers carried on the back or shoulder of the operator for use with plant protection products. It is applicable to lever-operated knapsack sprayers, knapsack compression sprayers and knapsack sprayers driven by an engine or electric motor using hydraulic pressure atomization of the spray liquid, with a nominal volume of more than 3 l for their intended use primarily in agriculture and horticulture. It does not apply to knapsack mistblowers covered by ISO 28139.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 19932-2:2013 en

€ 106.87

NEN-EN-ISO 22867:2011

Bosbouwmachines - Draagbare, met de hand geleide bosbouwmachines met inwendige verbrandingsmotor - Trilproef code - Meting van trillingen bij de handvatten

This International Standard specifies a vibration test code for determining, efficiently and under standardized conditions, the magnitude of vibration at the handles of portable hand-held, internal-combustion-engine-powered forest and garden machinery, including chain-saws (with the exception of high-handled chain-saws), brush-cutters, grass-trimmers, pole-mounted powered pruners, hedge-trimmers and garden-blowers. Although the magnitudes measured are obtained in an artificial operation, they nevertheless give an indication of the values to be found in a real work situation.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 22867:2011 en

€ 124.99

NEN-EN-ISO 22868:2011

Bosbouwmachines - Geluidsbeoordelingscode voor draagbare, met de hand geleide machines met inwendige verbrandingsmotor - Uitvoeringsmethode (klasse 2)

This International Standard specifies a noise test code for determining, efficiently and under standardized conditions, the noise emission characteristics of portable, hand-held, combustion-engine-powered forest and garden machines, including chain-saws, brush-cutters, grass-trimmers, pole-mounted powered pruners, hedge-trimmers and garden blowers/vacuums. Noise emission characteristics include the A-weighted emission sound pressure level at the operator position and the A-weighted sound power level.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 22868:2011 en

€ 124.99

NEN-EN-ISO 28139:2009

Landbouw- en bosbouwmachines - Nevelapparaten aangedreven door een zuigermotor met inwendige verbranding - Veiligheidseisen

This International Standard specifies safety requirements and their verification for the design and construction of knapsack mistblowers incorporating a combustion engine where the air flow is generated by a fan. It describes methods for the elimination or reduction of hazards arising from their use. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer. It does not, however, give any technical requirement for reducing noise or vibration hazards. Indeed, the different means available to reduce these hazards are a matter for the technical aids to which the manufacturer may resort, through specialized books or specified bodies. This International Standard deals with all significant hazards, hazardous situations and events, excepting those arising from - electromagnetic compatibility, - static electricity, - explosion or fire from chemicals for spraying, - insufficient structural integrity, and - noise and vibration. It is applicable to knapsack combustion-engine-driven mistblowers when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). It is not applicable to knapsack combustion-engine-driven mistblowers manufactured before the date of its publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 28139:2009 en

€ 79.70

Leer- en kunstleerverwerkingsmachines

NEN-EN 930:1997+A2:2010

Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Machines voor opruwen, schuren, glanzen en kantafwerking - Veiligheidseisen

This standard applies to the following machines which are intended to work material for the manufacture of footwear: - Automatic and manual roughing, scouring and polishing machines; - Automatic and manual edge contour trimming machines. This standard specifies safety requirements for design, construction and operation. It takes account of intended use, foreseeable misuse, component and system failure. This standard covers all hazards relevant to the footwear, leather and imitation leather goods manufacturing industries. The use of machines within the scope of this standard in different industries may give rise to hazards which were not taken into account at the time of its preparation.

Type C 2006/42/EG Geverifieerd

NEN-EN 930:1997+A2:2010 en

€ 74.30

NEN-EN 931:1997+A2:2010

Machines voor het vervaardigen van schoeisel - Leestmachines - Veiligheidseisen

This standard is applicable to lasting machines used in the footwear manufacturing industry, namely: - Adhesive fore part lasting machines , - Hand operated adhesive side lasting machines, - Adhesive seat lasting machines, - Adhesive seat and side lasting machines, - Hand operated tack/staple side lasting machines, - Tack seat lasting machines, - Tack seat and side thermocement lasting machines, - Tack heel seat and thermocent side lasting machines, - Tack heel seat and thermocent + tack side lasting machines.

Type C 2006/42/EG Geverifieerd

NEN-EN 931:1997+A2:2010 en

€ 61.30

NEN-EN 972:1998+A1:2010**Leerbewerkingsmachines - Machines met invoerwalsen - Veiligheidseisen**

This European Standard specifies safety requirements for all the phases of the life of a machine listed in 5.3 a) of EN ISO 12100-1:2003. Reciprocating roller machines are machines used for the processing of animal hides and skins. They have a reciprocating opening and closing motion of the feed rollers or conveyors which, if required, may also reverse their direction. This standard covers the following reciprocating roller machines a) Buffing machines b) Polishing machines c) Ironing machines (woolskins and fur) d) Carding machines e) Shearing machines (woolskins and fur) f) Cylinder universal staking machines g) Setting-out machines h) Dewooling machines i) Scudding machines j) Unhairing (dehairing) machines k) Sammying machines l) Cylinder ironing machines m) Cylinder staking machines n) Fleshing machines o) Demanuring machines p) Wet wheeling machines q) Shaving machines (feed-out) r) Shaving machines (feed-in) It takes account of intended use, foreseeable misuse, component and systems failure. This European Standard is not applicable to reciprocating roller machines which are manufactured before the date of its publication as EN. This European Standard provides provisions for the reduction of noise emission at the design stage. However, it does not provide a noise test code for the determination by measurement of noise emission values for the machines it covers. Without such a code the manufacturer cannot fulfil his obligation to provide the noise emission values of the machines put on the market. All the significant hazards are dealt with in this European Standard except the following: - Dust, smoke and vapour emissions; - Fire. For these hazards general guidelines are proposed in normative annexes. Designers and manufacturers shall verify directly that the methods adopted to reduce these hazards have been successful.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 972:1998+A1:2010 en

€ 74.30

NEN-EN 972:1998+A1:2010/C1:2011**Leerbewerkingsmachines - Machines met invoerwalsen - Veiligheidseisen**

Type C 2006/42/EG Geharmoniseerd

NEN-EN 972:1998+A1:2010/C1:2011 en

€ 0.00

NEN-EN 1845:2008**Machines voor het vervaardigen van schoeisel - Machines voor het vormen van schoeisel - Veiligheidseisen**

This European Standard applies to footwear moulding machines which are intended for use in the shoe industry for the production of footwear and footwear components. These machines are: - direct-on sole moulding machines (see Figures 1, 2 and 3); - unit sole and footwear component moulding machines (see Figures 4 to 10); full shoe and boot moulding machines (see Figure 11). This European Standard applies also to the mentioned machines when used for other products than footwear and footwear components, as far as these products require no other changes than a different mould. This European Standard specifies safety requirements for construction, transport, installation, adjustment, setting, teaching or process change-over, operation, cleaning, maintenance, decommissioning, dismantling and, as far as safety is concerned, disposal for machines mentioned in I.1. It deals with all significant hazards, hazardous situations and events relevant to footwear moulding machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). The following machines are excluded from the scope of this European Standard unless used for directon sole moulding or reaction moulding: - moulding machines with static injection units and static mould stations (clamping units); - moulding machines with static metering and mixing units and mobile stations with linear configuration (mould carriers). The European Standard does not deal with hazards created by the mixing and metering unit. The use of machines within the scope of this European Standard in industries other than those specified in 1.1 may give rise to hazards not considered during its preparation. NOTE For this application see also EN 201 and prEN 1612-2. This European Standard also applies to the following additional equipment for material handling and operation which are an integral part of the machine: spraying devices, injection units, casting units, nozzle cleaners, sprue pullers, mould front edge cleaners, activating devices, robots and equipment for preparatory and subsequent treatment (see Figure M.1). This European Standard assumes the machines: - are operated by adequately trained persons; - are used with adequate workplace lighting (see EN 12464-1).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1845:2008 en

€ 98.50

NEN-EN 12044:2005+A1:2010**Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Stansmachines - Veiligheidseisen**

This European Standard applies for cutting and punching machines used in the manufacture of footwear, leather and imitation leather goods and other related components. This European Standard applies to the following cutting and punching machines: - swing arm cutting presses with manual or powered swing arm; - manual and automatic travelling head cutting presses with powered travelling head; - manual and automatic beam cutting presses; - punching and perforating presses; - C-frame cutting presses.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12044:2005+A1:2010 en

€ 86.00

NEN-EN 12203:2003+A1:2010**Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Persen voor schoenen en leer - Veiligheidseisen**

This European Standard is applicable to shoe and leather presses (see 3.1) used in the manufacture of footwear, leather and imitation leather goods and other related components. These machines are: - Sole attaching presses (open and closed types); - Sole and insole moulding machines; - Back part moulding machines; - Backer, lining and toe puff attaching presses; - Ironing presses; - Marking, stamping, labelling and embossing machines; - Stitch marking machines; - Upper preforming machines; - Automatic shoe and leather presses; a) Premoulding machines for thermoplastic counters and counter forming machines; b) Integrated manufacturing systems; c) Presses with mobile stations and rotary configuration; - Folding presses; - Activating presses; - Relasting and last slipping machines; - Top piece attaching presses; - Leather button covering machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12203:2003+A1:2010 en

€ 98.50

NEN-EN 12387:2005+A1:2010

Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Modulaire machines voor de reparatie van schoenen - Veiligheidseisen

This document applies to the following machines including their additional equipment intended for the repair of footwear, leather and imitation leather goods as well as for the manufacture and repair of orthopaedic shoes hereafter called "Shoe Repair Machines": a) Polishing machines; b) Trimming machines; c) Scouring machines; d) Finishing machines; e) Orthopaedic finishing machines; f) Heel and sole press; g) Activating unit - Adhesive; h) Orthopaedic vacuum moulding press; i) Orthopaedic presses; j) Extraction equipment; k) Powered ranging device; l) Edge inking or staining machines; m) Mechanism for stationary nailing and stapling tools. These machines can be standing alone or combined in a modular system for shoe repairs or the production of orthopaedic shoes including the lasts.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12387:2005+A1:2010 en

€ 74.30

NEN-EN 12545:2000+A1:2009

Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Meting van geluid - Algemene eisen

This noise test code specifies common requirements necessary to carry out efficiently and under standardised conditions the determination, declaration and verification of the noise emission characteristics of the following leather and imitation leather goods and footwear manufacturing machinery: - Cutting and punching machines (EN 12044); - Roughing, scouring, polishing and trimming machines (EN 930); - Footwear moulding machines (EN 1845); - Lasting machines (EN 931); - Nailing machines (EN 12653); - Modular shoe repair equipment (EN 12387); - Shoe and leather presses (EN 12203); - Splitting, skiving, cutting, cementing and cement drying machines (EN 13457). Common requirements given in this standard are complemented by specific requirements on noise given in the above mentioned C-type standards. Noise emission characteristics include emission sound pressure levels at workstations and the sound power level. The determination of these quantities is necessary e.g. for: - manufacturers to declare the noise emitted; - comparing the noise emitted by machines in the family concerned; - purposes of noise control at source at the design stage. The use of this noise test code and of the specific requirements on noise given in the relevant C-type standard ensures the reproducibility of the determination of the noise emission characteristics within specified limits determined by the grade of accuracy of the basic noise measurement standards used. Preferred noise measurement standards are those of engineering grade of accuracy (grade 2).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12545:2000+A1:2009 en

€ 49.30

NEN-EN 12653:1999+A2:2010

Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Spijkermachines - Veiligheidseisen

This standard is applicable to nailing machines used in the footwear manufacturing industry, namely: - heel attaching machines - heel nailing machines - gang nailing machines. This standard specifies safety requirements for the design and construction of nailing machines. No specific requirements are included for transport, commissioning and decommissioning. It takes account of intended use, foreseeable misuse and component and system failure. This standard covers all hazards relevant to the footwear manufacturing industry. Use of the machines within the scope of this standard in different industries may give rise to hazards which were not taken into account at the time of its preparation.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12653:1999+A2:2010 en

€ 61.30

NEN-EN 13112:2002+A1:2009

Leerbewerkingsmachines - Splits- en snijmachines - Veiligheidseisen

This European Standard specifies safety requirements for design, construction, operation, adjustment, setting, cleaning and maintenance of splitting machines (see figures 1, 2) for limed hides and skins, wet blue and dry materials, bandknife shearing machines (see figures 3, 4, 5, 6) used in the splitting and shearing of leather and synthetic materials. This standard takes account of intended use, foreseeable misuse, component and systems failure. The machines are for fixed installation. This document is not applicable to the splitting and bandknife shearing machines which are manufactured before the date of its publication as EN." All the significant hazards listed in clause 4 are safeguarded by the requirements included in clause 5 except dust and fire. For these hazards general guidelines are proposed in normative annex A. Designers and manufacturers shall verify directly that the methods adopted to reduce these hazards have been successful.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13112:2002+A1:2009 en

€ 74.30

NEN-EN 13113:2002+A1:2010

Leerbewerkingsmachines - Rolbekledingsmachines - Veiligheidseisen

This European Standard deals with the following roller coating machines (see Figures 2 to 4 and normative annex A for description): a) single and multi-roller contra-rotating machines (see Figure 2); b) single and multi-roller synchronised machines (see Figure 3); c) single and multi roller- contra-rotating /synchronised machines, so-called combined machines (see Figure 4). The machines are not intended to be used during transportation. This standard specifies safety requirements for design, construction and operation. It takes account of intended use, foreseeable misuse, component and systems failure. This standard takes account of material feeding and handling devices which, when attached to the machine, become an integral part.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13113:2002+A1:2010 en

€ 74.30

NEN-EN 13114:2002+A1:2009**Leerbewerkingsmachines - Draaiende bewerkingsvaten - Veiligheidseisen**

This European Standard specifies safety requirements for design, construction, operation, adjustment, setting, cleaning and maintenance of a machine. This standard covers the following machines (see annex C and Figures 1 and 2 for typical configurations): a) horizontal rotating vessels; b) inclined rotating vessels. This standard does not apply to machines using substances containing solvent, that would generate fume and/or vapour detrimental to health, or that may lead to fire or explosive atmosphere. This standard takes account of intended use, foreseeable misuse, component and systems failure. The machines are for fixed installation. This document is not applicable to the rotating vessels which are manufactured before the date of its publication as EN." This standard does not establish any requirements for electromagnetic disturbances.

Type C 2006/42/EG Geverniseerd

NEN-EN 13114:2002+A1:2009 en

€ 61.30

NEN-EN 13457:2004+A1:2010**Machines voor de fabricage van schoeisel, leer- en kunstleerproducten - Machines voor het splijten, schiften, snijden, lijmen en drogen van lijm - Veiligheidseisen**

This document applies to splitting, skiving, edge trimming, strip cutting, cementing and cement drying machines used in the manufacture of footwear, leather and imitation leather goods and other related components. This document does not apply to: - trimming machines with rotary milling tool for the purpose of trimming edges of material, see EN 930; - splitting and band knife machines used in tanneries, see EN 13112; - portable machines. This document specifies safety requirements for construction, transport, installation, adjustment, setting, teaching or process change-over, operation, cleaning, maintenance, decommissioning, dismantling and, as far as safety is concerned, disposal for machines mentioned in 1.1. It takes account of intended use !, foreseeable misuse", component and system failure. This document deals with significant hazards relevant to the footwear, leather and imitation leather goods manufacturing industries. (For a list of hazards see Clause 4.) The document does not deal with precise technical measures for reducing the risks of fumes and dusts detrimental to health. The use of machines falling within the scope of this document for purposes other than those specified in 1.1, may give rise to hazards not considered during its preparation. This document also applies to equipment for material handling and operations which are an integral part of the machine. This document assumes the machines - are operated by adequately trained persons - are used with adequate workplace lighting conforming the local regulations or to EN 12464-1. This document is not applicable to splitting, skiving, edge trimming, strip cutting, cementing and cement drying machines which are manufactured before the date of its publication as EN."

Type C 2006/42/EG Geverniseerd

NEN-EN 13457:2004+A1:2010 en

€ 86.00

Liften en roltrappen**NEN-EN 81-3:2000+A1:2008****Veiligheidsregels voor het vervaardigen en het aanbrengen van liften - Deel 3: Elektrische en hydraulische klein-goederenliften**

This standard specifies the safety rules for the construction and installation of permanently installed new electric service lifts with traction or positive drive, or hydraulic service lifts defined as lifting equipment, serving defined landing levels, having a car, the interior of which is regarded as inaccessible to persons on account of its dimensions and means of construction, suspended by ropes or chains or supported by a ram and moving between rigid vertical guide rails or guide rails whose inclination to the vertical does not exceed 15° and driven electrically or hydraulically. This standard covers service lifts with rated load not exceeding 300 kilogrammes and not intended to move persons. In addition to the requirements of this standard supplementary requirements shall be considered in special cases (potentially explosive atmosphere, extreme climate conditions, seismic conditions, transporting dangerous goods, etc.).

Type C 2006/42/EG Geverniseerd

NEN-EN 81-3:2000+A1:2008 fr

€ 98.50

NEN-EN 81-3:2000+A1:2008 en

€ 110.00

NEN-EN 81-3:2000+A1:2008/C1:2009**Veiligheidsregels voor het vervaardigen en het aanbrengen van liften - Deel 3: Elektrische en hydraulische klein-goederenliften**

Type C 2006/42/EG Geverniseerd

NEN-EN 81-3:2000+A1:2008/C1:2009 en;de;fr

€ 0.00

NEN-EN 81-31:2010

Veiligheidsregels voor het vervaardigen en het aanbrengen van liften - Liften voor het vervoer van goederen - Deel 31: Betrouwbare goederenliften

This European Standard applies to new electric accessible goods only lifts with traction or positive drive and new hydraulic accessible goods only lifts, permanently installed in restricted areas and/or only used by authorised and instructed persons (users), serving fixed and permanent landing levels, having a load carrying unit made of a single load carrying area, designed for the transportation of goods only, moving along a fixed path (e.g. scissor lifts, lifts with guide rails) and inclined not more than 15° to the vertical, with rated speed not exceeding 1 m/s. This European Standard covers accessible goods only lifts with rated load exceeding 300 kg and not intended to move persons. This standard deals with all significant hazards, hazardous situations and events with the exception of those listed in 1.3 below, relevant to accessible goods only lifts, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). For the purpose of this European Standard, a goods only lift is regarded as accessible where one of the following conditions is satisfied: a) floor area of the load carrying unit is greater than 1,0 m²; b) depth of the load carrying unit is greater than 1,0 m; c) height of the load carrying unit is greater than 1,20 m. In case of a platform, it is considered accessible when the height of the landing doors is more than 1,20 m. Two types of accessible goods only lifts are addressed: a) Type A, where the intended use is bound to the following two simultaneous conditions: 1) maximum rated speed: 0,30 m/s; 2) maximum travelling height: 12 m; b) Type B, where one of the conditions mentioned above is not fulfilled. This European Standard does not give the requirements to be met in special cases (potentially explosive atmosphere, extreme climate conditions, seismic conditions, transporting dangerous goods, etc.). The significant hazards, hazardous situations and events dealt with by this standard are those listed in EN ISO 14121-1:2007, Annex A (see Clause 4) with the exception of: - noise; - vibration; - fire; - any form of radiation except EMC.

Type C 2006/42/EG Geverifieerd

NEN-EN 81-31:2010 en

€ 122.00

NEN-EN 81-40:2008

Veiligheidsregels voor het vervaardigen en het aanbrengen van liften - Bijzondere liften voor het vervoer van personen en goederen - Deel 40: Trapliften en hefplateaus met hellende baan bedoeld voor personen met verminderde mobiliteit

This European Standard deals with safety requirements for construction, manufacturing, installation, maintenance and dismantling of electrically operated stairlifts (chair, standing platform and wheelchair platform) affixed to a building structure, moving in an inclined plane and intended for use by persons with impaired mobility: - travelling over a stair or an accessible inclined surface; - intended for use by one person; whose carriage is directly retained and guided by a guide rail or rails; - supported or sustained by rope (5.4.4), rack and pinion (5.4.5), chain (5.4.6), screw and nut (5.4.7), friction traction drive (5.4.8), and guided rope and ball (5.4.9). The standard identifies hazards as listed in Clause 4 which arise during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards when used as intended by the manufacturer. This European standard does not specify the additional requirements for: - operation in severe conditions (e.g. extreme climates, strong magnetic fields); - lightning protection; - operation subject to special rules (e.g. potentially explosive atmospheres); - handling of materials the nature of which could lead to dangerous situations; - use of energy systems other than electricity; - hazards occurring during manufacture; earthquakes, flooding, fire; - type C wheelchairs as defined in EN 12183 and/or EN 12184; - evacuation during a fire; stairlifts for goods only; - concrete, hardcore, timber or other foundation or building arrangement; - design of anchorage bolts to the supporting structure.

Type C 2006/42/EG Geverifieerd

NEN-EN 81-40:2008 en

€ 86.00

NEN-EN 81-41:2010

Veiligheidsregels voor het vervaardigen en het aanbrengen van liften - Bijzondere liften voor het vervoer van personen en goederen - Deel 41: Verticaal bewegende hefplateaus bedoeld voor gebruik door gehandicapte personen

This European Standard deals with safety requirements for construction, manufacturing, installation, maintenance and dismantling of electrically powered vertical lifting platforms affixed to a building structure intended for use by persons with impaired mobility: - travelling vertically between predefined levels along a guided path whose inclination to the vertical does not exceed 15°; - intended for use by persons with or without a wheelchair; - supported or sustained by rack and pinion, wire ropes, chains, screw and nut, friction/traction between wheels and the rail, guided chain, scissors mechanism or hydraulic jack (direct or indirect); - with enclosed liftways; - with a speed not greater than 0,15 m/s; - with platforms where the carrier is not completely enclosed. This standard deals with all significant hazards relevant to lifting platforms, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 81-41:2010 en

€ 110.00

NEN-EN 81-41:2016 Ontw.

Veiligheidsregels voor de vervaardiging en de installatie van liften - Bijzondere liften voor het vervoer van personen en goederen - Deel 41: Verticaal bewegende hefplateaus bedoeld voor gebruik door personen met verminderde mobiliteit

This draft European Standard deals with safety requirements for construction, manufacturing, installation, maintenance and dismantling of electrically powered vertical lifting platforms affixed to a building structure intended for use by persons with impaired mobility: - travelling vertically between predefined levels along a guided path whose inclination to the vertical does not exceed 15°; - intended for use by persons with or without a wheelchair; - supported or sustained by rack and pinion, rope traction drive, noncircular elastomeric-coated steel suspension members (hereafter called flat belt) traction drive, rope positive drive, chains, toothed belts, screw and nut, guided chain, scissors mechanism or hydraulic jack (direct or indirect); - with enclosed liftways; - with a speed not greater than 0,15 m/s; - with platforms where the carrier is not completely enclosed.

Type C

NEN-EN 81-41:2016 Ontw. en

€ 53.40

NEN-EN 81-43:2009**Veiligheidsregels voor het vervaardigen en het aanbrengen van liften - Bijzondere liften voor het vervoer van personen en goederen - Deel 43: Bijzondere liften voor hijskranen**

This document specifies the safety requirements for the construction and installation of power operated lifts attached to cranes and intended for access to workplaces on cranes, by authorised persons. This includes intended use, erection, dismantling, inspection and maintenance. The lift serves defined landing levels and has a load carrying unit which is: a) designed for the transportation of persons and goods; b) guided; c) travelling vertically or along a path within 15 degrees maximum from the vertical; d) supported by rack and pinion or suspended by steel wire ropes; e) travelling with a speed not more than 1,0 m/s for permanent lifts and not more than 0,4 m/s for temporary lifts. This document identifies hazards as listed in Clause 4 which arise during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards when used as intended by the manufacturer. This document does not specify the additional requirements for: a) operation in severe conditions (e.g. extreme climates, strong magnetic fields); b) lightning protection; c) operation subject to special rules (e.g. potentially explosive atmospheres); d) electromagnetic compatibility (emission, immunity); e) handling of loads the nature of which could lead to dangerous situations; f) the use of combustion engines; g) hydraulic drive units; h) hazards occurring during manufacturing process; i) hazards occurring as a result of being erected over a public road; j) earthquakes; k) noise (see also Directive on noise emissions from machines used outdoors (2000/14/EC)). This standard is not applicable to: a) builders hoists according to EN 12158-1:2000, EN 12158-2:2000 and EN 12159:2000; b) elevating control stations according to EN 14502-2:2005+A1:2008; c) lifts according to EN 81-1:1998; d) work platforms carried on the forks of fork trucks; e) work platforms; f) funiculars; g) lifts specifically designed for military purposes; h) mine lifts; i) theatre elevators. This standard deals with the complete lift design but excludes the design of the crane. It includes the base frame and base enclosure but excludes the design of any concrete, hard core, timber or other foundation arrangement. It includes the design of mast ties and the design of anchorage parts between the mast tie and the crane structure. This standard also includes the design of the landing gates and their fixings.

Type C 2006/42/EG Geverifieerd

NEN-EN 81-43:2009 en

€ 86.00

NEN-EN 81-72:2015**Veiligheidsregels voor de vervaardiging en de installatie van liften - Bijzondere toepassingen voor personenliften en personen-goederenliften - Deel 72: Brandweerliften**

NEN-EN 81-72 specifies the additional or deviating requirements to EN 81-20 for new passenger and goods passenger lifts, which may be used for firefighting and evacuation purposes under firefighters control. This European Standard applies, when the following conditions are fulfilled: - the lift well and the lift environment are designed to restrict the ingress of fire, heat and smoke to the lift well, machinery spaces and safe areas; - the building design limits the flow of water into the lift well; - the firefighters lift is not used as an escape route; - the lift well and the lift environment are fire protected for at least to the same level as the building structure; - the power supply is secure and reliable; - the electrical cable(s) providing power to the lift is fire protected to the same fire protection level as given to the lift well structure; - a suitable maintenance and verification plan is implemented. This European Standard does not cover: - the use of lifts with partially enclosed wells for use as firefighters lifts; - lifts installed in new or existing buildings, which are not included in fire resisting building structure; - important modification to existing lifts. This European Standard does not define: - the number of firefighters lifts and the floors to be served during firefighting operations; - size of safe area(s); - the use of other than the highest deck of a multi deck lift for firefighting operations. This European Standard deals with the significant hazards, hazardous situations and events relevant to firefighters lifts (as listed in Clause 4) when they are used as intended and under the conditions as foreseen by the installer. The following significant hazards are not dealt with in this standard and are assumed to be addressed by the building designer: - not having enough or correctly located firefighters lifts to move the firefighters up the building; - a fire in the firefighters lift well, safe area, machinery space or car; - the absence of building floor identification signs at any floor; - water management is not operating correctly.

Type C

NEN-EN 81-72:2015 en

€ 74.30

NEN-EN 115-1:2017**Veiligheid van roltrappen en rolpaden - Deel 1: Constructie en installatie**

NEN-EN 115-1 is applicable for new escalators and moving walks (pallet or belt type) as defined in Clause 3. This European Standard deals with all significant hazards, hazardous situations and events relevant to escalators and moving walks when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard is not applicable to escalators and moving walks which were manufactured before the date of its publication. It is, however, recommended that existing installations be adapted to this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 115-1:2017 en

€ 110.00

NEN-EN 1570-2:2016**Veiligheidseisen voor heftafels - Deel 2: Heftafels die meer dan 2 vaste stopplaatsen van een gebouw bedienen, voor het heffen van goederen met een hefsnelheid van niet meer dan 0,15 m/s**

NEN-EN 1570-2 specifies the safety requirements applicable to lifting tables presenting the following characteristics: - serving more than two fixed landings of a construction; - able to pass landings; - designed exclusively for lifting or lowering goods and not persons; - only accessible to persons during the loading/unloading phases; - with a travel speed of no more than 0,15 m/s; - permanently installed.

Type C 2006/42/EG Geverifieerd

NEN-EN 1570-2:2016 en

€ 131.28

NEN-EN 12016:2013**Elektromagnetische compatibiliteit - Productgroepnorm voor liften, roltrappen en rolpaden - Immunititeit**

This European Standard specifies the immunity performance criteria and test levels for apparatus used in lifts, escalators and moving walks which are intended to be permanently installed in buildings including the basic safety requirements in regard to their electromagnetic environment. These levels represent essential EMC requirements. The standard refers to EM conditions as existing in residential, office and industrial buildings. This standard addresses commonly known EMC related hazards and hazardous situations relevant to lifts, escalators and moving walks when they are used as intended and under the conditions foreseen by the lift installer or escalator and/or moving walk manufacturer. This standard addresses the environmental conditions stated in the EN 81 series of standards and EN 115 series (humidity, temperature, etc.), so far as they are related to EMC performance. However: - performance criteria and test levels for apparatus/assembly of apparatus used in general function circuits do not cover situations with an extremely low probability of occurrence; - this standard does not apply to other apparatus already proven to be in conformity to the EMC Directive, and not related to the safety of the lift, escalator or moving walk, such as lighting apparatus, communication apparatus, etc. This standard does not apply to electromagnetic environments such as: - radio transmitter stations; - railways and metros; - heavy industrial plant; - electricity power stations which need additional investigations.

Type C 2006/42/EG Geverifieerd

NEN-EN 12016:2013 en

€ 61.30

NEN-EN 12158-1:2000+A1:2010**Bouwliften voor goederenvervoer - Deel 1: Liften met betreedbaar platform**

This standard deals with power operated temporarily installed builders hoists (referred to as "hoists" in this standard) intended for use by persons who are permitted to enter sites of engineering and construction, serving landing levels, having a load carrying device: - designed for the transportation of goods only; - guided; - travelling vertically or along a path within 15 degrees max. of the vertical; - supported or sustained by drum driven wire rope, chain, rack and pinion, hydraulic jack (direct or indirect), or an expanding linkage mechanism; - where masts, when erected, may or may not require support from separate structures; - which permits the access of instructed persons during loading and unloading; - which are driven by appointed persons; - which permits, if necessary, during erection, dismantling, maintenance and inspection, the access and travel by persons who are competent and authorised. The standard identifies hazards as listed in clause 4 which arise during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards when used as intended by the manufacturer. This standard deals with the hoist installation. It includes the base frame and base enclosure but excludes the design of any concrete, hard core, timber or other foundation arrangement. It includes the design of mast ties but excludes the design of anchorage bolts to the supporting structure. It includes the landing gates and their frames but excludes the design of any anchorage fixing bolts to the supporting structure.

Type C 2006/42/EG Geverifieerd

NEN-EN 12158-1:2000+A1:2010 en

€ 86.00

NEN-EN 12158-2:2000+A1:2010**Bouwliften voor goederenvervoer - Deel 2: Hellend opgestelde liften met niet-betreedbare lastdragende inrichtingen**

This standard deals with power operated temporarily installed builders hoists intended for use by persons who are permitted to enter sites of engineering and construction, serving either one upper landing or a work area extending to the end of the guides, (e.g. a roof) having a load carrying device (lcd): - which is intended for the transportation of goods only; - where it is forbidden for persons to step upon it at any time; - which is guided; - which is designed to travel at an angle of at least 30 degrees to the vertical but may be used at any angle between the vertical and the maximum inclination as specified by the manufacturer; - which is sustained by steel wire rope and a positive drive system; - which is controlled by hold-to-run controls by the operator; - which does not benefit from the use of any counterweight; - which has a maximum rated load of 300 kg; - which has a maximum speed of 1,00 m/s; and where the guides require support from separate structures. The standard identifies hazards as listed in clause 4, which arise during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards when used as intended by the manufacturer. The safety requirements and/or measures of this standard deal with the design of the base frame, guide rails, lcd, drive unit, electrical and/or hydraulic installation and the control of the hoist. Included is the design of any guide rail support but not the design of the supporting structure (e.g. building or scaffold) and any ties. Other aspects such as base enclosure, the design of any concrete, hard core, timber or other foundation arrangement, hoistway protection and the upper landing are dealt with in the users' manual section of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 12158-2:2000+A1:2010 en

€ 74.30

NEN-EN 12159:2012**Bouwliften voor personen- en goederenvervoer met verticaal geleide kooi**

This European Standard deals with power operated temporarily installed builders hoists (referred to as "hoists" in this standard) intended for use by persons who are permitted to enter sites of engineering and construction, serving landing levels, having a cage: - designed for the transportation of persons or of persons and materials; - guided; - travelling vertically or along a path within 15° max. of the vertical; - supported or sustained by drum driven wire rope, rack and pinion, or an expanding linkage mechanism; - where masts, when erected, may or may not require support from separate structures. The European Standard identifies hazards as listed in Clause 4 which arise during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards when used as intended by the manufacturer.

Type C 2006/42/EG Geverifieerd

NEN-EN 12159:2012 en

€ 86.00

NEN-EN 13015:2001+A1:2008**Onderhoud van liften en roltrappen - Regels voor onderhoudsinstructies**

NEN-EN 13015+A1 specificeert de elementen die nodig zijn bij het opstellen van de instructies voor onderhoudswerkzaamheden, zoals aangegeven in 3.1, die worden verstrekt bij nieuw geïnstalleerde personenliften, personengoederenliften, betredbare goederenliften, klein-goederenliften, roltrappen en rolpaden. Deze Europese norm heeft geen betrekking op: a) instructies voor de montage en de sloop; b) alle wettelijke onderzoeken en beproevingen gebaseerd op nationale regelgeving. Deze norm heeft geen betrekking op bestaande installaties, maar kan daarvoor wel als uitgangspunt worden gehanteerd.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13015:2001+A1:2008 nl € 76.70

NEN-EN 13015:2001+A1:2008 en € 49.30

Luchtvracht- en grondafhandelingsapparatuur**NEN-EN 1915-1:2013****Grondafhandelingsapparatuur voor vliegtuigen - Algemene eisen - Deel 1: Basis-veiligheidseisen**

This European Standard applies to GSE when used in civil air transport as intended by the manufacturer and contains safety requirements relating to the equipment in general. This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of GSE when used as intended including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This part of EN 1915 is intended to be used in conjunction with EN 1915-2, EN 1915-3 (for self-propelled GSE) and EN 1915-4, and with the relevant part of EN 12312 to give the requirements for the types of GSE within the scope of EN 12312. When EN 12312 does not contain a relevant part for a GSE, EN 1915 (all parts) gives general requirements that may apply, although additional machine specific requirements, to be determined by the manufacturer, are likely to be required. This part of EN 1915 does not apply to automotive parts approved for public vehicles in the EU and EFTA, when used on GSE for the purpose for which they are designed. This part of EN 1915 does not establish additional requirements for the following: a) operation elsewhere than in an airport environment; b) operation in severe conditions, e.g. ambient temperature below -20 °C or over 50 °C, tropical or saturated salty atmospheric environment, strong magnetic or radiation field; c) operation subject to special rules, e.g. potentially explosive atmosphere except as regards operation in the vicinity of an aircraft fuel tank during fuelling operation; d) hazards caused by power supply other than from electrical networks; e) hazards occurring during construction, transportation, commissioning and decommissioning of the GSE; f) hazards caused by wind velocity in excess of the figures given in this European Standard; g) direct contact with food stuffs; h) earthquake, flood, landslide, lightning and more generally any exceptional natural event; i) electromagnetic compatibility (EMC); j) hazards caused by noise and vibration, see EN 1915-3 and EN 1915-4. While this standard gives some basic requirements for wireless remote controls, additional requirements will be necessary. This part of EN 1915 is not applicable to GSE which are manufactured before the date of publication by CEN of this Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1915-1:2013 en € 86.00

NEN-EN 1915-2:2001+A1:2009**Grondafhandelingsapparatuur voor vliegtuigen - Algemene eisen - Deel 2: Stabiliteits- en sterke-eisen, berekeningen en beproevingsmethoden**

This Part of EN 1915 specifies the conditions to be taken into consideration when calculating the strength and the stability of GSE according to EN 1915-1 and the EN 12312 series under intended use conditions. It also specifies general test methods. This Part of EN 1915 does not establish additional requirements for the following: - operation elsewhere than in an airport environment; - operation in severe conditions, e.g. ambient temperature below -20 °C or over 50 °C, tropical or saturated salty atmospheric environment; - hazards caused by wind velocity in excess of the figures given in this European Standard; - earthquake, flood, landslide, lightning and more generally any natural catastrophe. This Part of EN 1915 is not applicable to GSE which are manufactured before the date of publication by CEN of this Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1915-2:2001+A1:2009 en € 61.30

NEN-EN 1915-3:2004+A1:2009**Grondafhandelingsapparatuur - Algemene eisen - Deel 3: Methoden voor het meten en reduceren van trillingen**

This European Standard deals with whole body vibration as a significant hazard." It also specifies the methods for determining the vibration emission transmitted to the whole body of drivers standing and/or seated on freely moveable GSE, when driving for purposes of type evaluation, declaration and methods of verifying vibration emission. The test results are not applicable to the determination of whole body vibration exposure of persons. This European Standard is intended to be used in conjunction with the other parts of EN 1915, and with the relevant part of EN 12312.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1915-3:2004+A1:2009 en € 49.30

NEN-EN 1915-4:2004+A1:2009**Grondafhandelingsapparatuur - Algemene eisen - Deel 4: Methoden voor geluidsmeting**

This document deals with noise reduction as a safety requirement. It also specifies the methods for determining the sound pressure level at workstations, other specified positions and the sound power level of GSE during intended use. The test results are not applicable to the determination of daily exposure to noise for the operator. This part of EN 1915 is intended to be used in conjunction with the other parts of EN 1915, and with the relevant part of EN 12312."

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1915-4:2004+A1:2009 en € 49.30

NEN-EN 12312-1:2013**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 1: Passagierstrappen**

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of passenger stairs when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to: a) self-propelled stairs with seated driver; b) pedestrian controlled stairs; c) towable stairs equipped with powered means, e.g. for height adjustment, stabilisers; d) automatic levelling systems of stairs for embarking/disembarking of passengers. "Powered" should also be understood as manual effort stored in springs or hydraulic accumulators, etc., the dangerous action of which can be produced or can continue after the manual effort has ceased or directly applied manual effort for lifting or lowering loads. Those clauses of this standard that can apply may also be used as a guideline for the design of towable stairs without powered means. This European Standard does not establish additional requirements for the following: 1) persons falling out of an aircraft with the passenger stairs not in position; 2) hazards resulting from a moving stairway (escalator); 3) upper deck door access. This part of EN 12312 is not applicable to passenger stairs which are manufactured before the date of publication of this standard by CEN. This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 provides the requirements for passenger stairs.

Type C 2006/42/EG Geverifieerd

NEN-EN 12312-1:2013 en

€ 49.30

NEN-EN 12312-2:2014**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 2: Cateringvoertuigen**

NEN-EN 12312-2 specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of catering vehicles when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to self-propelled catering vehicles, with seated driver, equipped with a liftable van body. This European Standard may be applied to catering vehicles used for other purposes provided that a suitable risk assessment is carried out to identify additional hazards or limitations in the requirements of this standard for a particular application. Similar vehicles e.g. cleaning equipment, equipment used for the exchange of aircraft seats, are also covered by this European Standard. This European Standard does not apply to pneumatic systems. This European Standard does not apply to unmodified automotive parts approved for public vehicles in the EU and EFTA., when used on a catering vehicle for the purpose for which they are designed. This part of EN 12312 is not applicable to catering vehicles which are manufactured before the date of publication of this standard by CEN. This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 provides the requirements for catering vehicles. This European Standard does not establish requirements for noise and vibration.

Type C 2006/42/EG Geverifieerd

NEN-EN 12312-2:2014 en

€ 61.30

NEN-EN 12312-3:2017**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 3: Voertuigen met bandtransporteurs**

NEN-EN 12312-3 specifies the technical requirements to minimize the hazards listed in Clause 4 that can arise during the commissioning, operation and maintenance of conveyor belt vehicles when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to a) self-propelled conveyor belt vehicles with or without driver's accommodation, b) self-propelled conveyor belt vehicles equipped with a van body, c) towed conveyor belt vehicles, intended to be used for manual loading/unloading of aircraft. This European Standard does not apply to any extensions or appurtenances of conveyor belt vehicles entering the aircraft cargo compartment in order to facilitate loading and unloading therein ("Aircraft Bulk Loading Systems", ABLS). This European Standard does not apply to pneumatic systems and to cable-less remote controls. This part of EN 12312 is not applicable to conveyor belt vehicles that were manufactured before the date of publication of this European Standard by CEN. This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 provides the requirements for conveyor belt vehicles.

Type C 2006/42/EG Geverifieerd

NEN-EN 12312-3:2017 en

€ 61.30

NEN-EN 12312-4:2014**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 4: Passagiersbruggen**

NEN-EN 12312-4 specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of passenger boarding bridges (PBBs) when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to: a) apron-drive bridges; b) fixed-head bridges (also referred to as nose-loaders) or pedestal bridges; c) suspended bridges, for embarking/disembarking of passengers. It is applicable from the interface with the terminal building, which can be movable, e.g. on two levels to separate arrival and departure level to the connection with the aircraft including fixed tunnels. This European Standard does not apply to: d) elevating lounges; e) passenger stairs; f) other form of aircraft access equipment; g) automatic PBB positioning. This European Standard does not establish requirements for hazards caused by noise and vibration. This part of EN 12312 is not applicable to PBBs which were manufactured before the date of publication of this standard by CEN. This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2 and EN 1915-4 provides the requirements for PBBs.

Type C 2006/42/EG Geverifieerd

NEN-EN 12312-4:2014 en

€ 61.30

NEN-EN 12312-5:2005+A1:2009**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 5: Brandstofmaterieel voor tankwagens**

This document specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of AFE when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines, airports and fuelling companies. This document applies to all types of aircraft fuelling equipment: - aircraft refuellers; - hydrant dispensers; - defuellers; - hydrant pit servicing vehicles; - stationary dispensing units, intended to service aircraft with aviation fuels and to be operated on airfields, heliports and other aircraft refuelling related areas such as maintenance bases. The intended functions of AFE are: - loading fuel from the tank farm and/or a hydrant system to the AFE; - storage and transportation of fuel; - fuelling from the AFE to the aircraft; - filtration of the fuel; - metering the fuel for a transfer of custody; - defuelling the aircraft to the AFE; - flushing fuel from hydrant systems; - unloading AFE to the tank farm after defuelling of an aircraft; - transferring fuel from one AFE to another. Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-5:2005+A1:2009 en

€ 74.30

NEN-EN 12312-6:2017**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 6: Ontijzingssapparatuur**

NEN-EN 12312-6 specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of deicers and equipment designed exclusively for de-icing and washing of aircraft with de-icing/anti-icing/washing liquids when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-6:2017 en

€ 74.30

NEN-EN 12312-7:2005+A1:2009**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 7: Apparatuur voor het verplaatsen van vliegtuigen**

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of aircraft movement equipment when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to: - aircraft tractors with driver accommodation; - pedestrian controlled aircraft movement equipment; - moveable parts of ramp integrated systems; - attachment bars, used for all operations, utilizing aircraft movement equipment, e.g.: - push back; - maintenance towing; - dispatch towing (operational towing). Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-7:2005+A1:2009 en

€ 49.30

NEN-EN 12312-8 Ontw.**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 8: Onderhoudstrappen en -platforms**

This European Standard specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of maintenance stairs and platforms when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. These machines are designed to be used as aircraft ground support equipment with the intended use to serve aircraft in outdoor conditions on the apron. They may also be used indoors at hangars. The use of such equipment for operations not in conjunction with aircraft is not defined as intended use therein. Due to the good operational conditions on the apron, deviations from some clauses of EN 280 were deemed acceptable. This European Standard applies to: a) self-propelled fixed or adjustable maintenance stairs and elevating platforms; b) towable maintenance stairs and platforms equipped with powered means, e.g. for height adjustment, stabilizers, designed for aircraft maintenance purposes including access to the aircraft.

Type C

NEN-EN 12312-8:2015 Ontw. en

€ 29.20

NEN-EN 12312-8:2005+A1:2009**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 8: Onderhoudstrappen en -platforms**

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of maintenance stairs and platforms when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and maintenance and handling agencies. This European Standard applies to: - self-propelled maintenance stairs and platforms; - towable maintenance stairs and platforms equipped with powered means, e.g. for height adjustment, stabilizers, designed for aircraft maintenance purposes including access to the aircraft (Examples see Annex A). This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-8:2005+A1:2009 en

€ 49.30

NEN-EN 12312-9:2013**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 9: Container/palletladers**

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of container/pallet loaders when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This document applies to: a) Container/Pallet loader (self-propelled) single platform; b) Container/Pallet loader (self-propelled) two or more platforms; c) Container/Pallet loader/transporter (self-propelled); d) Container/Pallet loader/transfer platform (towed). This document does not establish requirements for noise and vibration. This standard does not deal with hazards in respect to a standard automotive chassis and from other vehicles on the apron. This part of EN 12312 is not applicable to container/pallet loaders which are manufactured before the date of publication of this standard by CEN. This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 provides the requirements for container/pallet loaders.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-9:2013 en

€ 61.30

NEN-EN 12312-10:2005+A1:2009**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 10: Transporteurs voor containers/pallets**

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of container/pallet transfer transporters when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to self-propelled container/pallet transfer transporters, with a seated driver. Examples of typical transfer transporters are shown in Annex A. Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-10:2005+A1:2009 en

€ 49.30

NEN-EN 12312-12:2017**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 12: Drinkwateruitrusting**

NEN-EN 12312-12 specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of potable water service equipment when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to: a) self-propelled potable water vehicles; b) towable potable water vehicles; c) moveable parts of ramp integrated systems, designed for servicing aircraft and intended to be used under the conditions given in EN 1915-1:2013, Clause 1. No extra requirements on noise and vibration are provided other than those in EN 1915-3 and EN 1915-4. This part of EN 12312 is not applicable to potable water service equipment which is manufactured before the date of publication of this standard by CEN. This part of EN 12312, when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4, provides the requirements for potable water service equipment.

Type C

NEN-EN 12312-12:2017 en

€ 49.30

NEN-EN 12312-13:2017**Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 13: Toiletuitrusting**

NEN-EN 12312-13 specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of lavatory service equipment when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to: a) self-propelled lavatory vehicles; b) towable lavatory vehicles; c) moveable parts of ramp integrated systems, designed for servicing aircraft and intended to be used under the conditions given in EN 1915-1:2013, Clause 1. No extra requirements on noise and vibration are provided other than those in EN 1915-3 and EN 1915-4. This part of EN 12312 is not applicable to lavatory service equipment which is manufactured before the date of publication of this standard by CEN. This part of EN 12312, when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4, provides the requirements for lavatory service equipment.

Type C

NEN-EN 12312-13:2017 en

€ 49.30

NEN-EN 12312-14:2014

Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 14: Passagervoertuigen ten behoeve van het instappen van gehandicapten

NEN-EN 12312-14 specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of disabled/incapacitated passenger boarding vehicles when used as intended including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard defines specific safety requirements for transporters/boarding vehicles for transporting/boarding incapacitated or disabled passengers as defined under 3.1, hereafter referred to as boarding vehicles. This European Standard applies to pedestrian controlled self-propelled boarding vehicles, self-propelled boarding vehicles with integrated driver's accommodation and towable boarding vehicles, used for moving disabled or incapacitated passengers at an airport between the terminal building and the aircraft ramp and to board and disembark those passengers to and from civil aircraft. This European Standard assumes that a disabled or incapacitated passenger may be accompanied by an attendant and may be seated in a wheelchair or reclining on a stretcher trolley.

Type C

NEN-EN 12312-14:2014 en

€ 61.30

NEN-EN 12312-15 Ontw.

Grondafhandelingsapparatuur - Bijzondere eisen - Deel 15: Tractoren voor bagage en apparatuur

This European Standard specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of baggage and equipment tractors when used as intended, including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorized representative. It also takes into account some requirements recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to self-propelled baggage and equipment tractors with driver accommodation. This European Standard does not apply to pedestrian controlled equipment. This European Standard deals with vibrations which are considered as significant. It does not establish requirements for noise. Vibration measurements are dealt with in EN 1915-3. Noise measurements and reduction are dealt with in EN 1915-4. This part of EN 12312 is not applicable to baggage and equipment tractors manufactured before the date of its publication. This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 provides the requirements for baggage and equipment tractors.

Type C

NEN-EN 12312-15:2017 Ontw. en

€ 29.20

NEN-EN 12312-15:2006+A1:2009

Grondafhandelingsapparatuur - Bijzondere eisen - Deel 15: Tractoren voor bagage en apparatuur

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of baggage and equipment tractors, when used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to self-propelled baggage and equipment tractors with driver accommodation. Examples of some typical baggage and equipment tractors are shown in Annex A. Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-15:2006+A1:2009 en

€ 49.30

NEN-EN 12312-16:2005+A1:2009

Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 16: Luchtstartapparatuur

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of air start equipment when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This European Standard applies to the following types of air start equipment used for civil aircraft: - stored air systems without compressors; - mobile diesel powered air start units; - mobile turbine powered air start units; - air delivery systems of ramp or passenger boarding bridges, as defined in Clause 3 (Examples see Annex A). Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-16:2005+A1:2009 en

€ 49.30

NEN-EN 12312-17:2004+A1:2009

Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 17: Klimaatregelingsapparatuur

This document specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of specific air conditioning equipment for aircraft ground support, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This document is not dealing with the hazards of air conditioning machinery itself, but with the equipment for the specific application of such machinery as aircraft ground support equipment. This document applies to all types of moveable air conditioning equipment with evaporators for cooling, heating and ventilating the interior of civil aircraft from outside (ground air conditioning). Examples see Annex A. It also applies to air conditioning units and accessories, e.g. hoses, couplers, mounted on moveable parts of passenger boarding bridges and/or moveable parts of fixed centralized aircraft air conditioning equipment, whether passenger boarding bridge mounted or ramp integrated. Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-17:2004+A1:2009 en

€ 49.30

NEN-EN 12312-18:2005+A1:2009

Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 18: Zuurstof/stikstofeenheden

This document specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of nitrogen or oxygen units when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE), manufacturers as well as airlines and handling agencies. This document applies to: - all types of mobile nitrogen units and oxygen units with transportable gas cylinders interchangeable for filling purposes; - equipment to be carried with other GSE or vehicles, e.g. skid mounted units, intended for the manual refill of gaseous nitrogen or oxygen on aircraft (Examples see Annex A). Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-18:2005+A1:2009 en

€ 49.30

NEN-EN 12312-19:2005+A1:2009

Grondafhandelingsapparatuur - Specifieke eisen - Deel 19: Vliegtuigkrikken, wielvijzels en hydraulische staartstutten

This document specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of aircraft jacks, axle jacks and hydraulic tail stanchions when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies. This document applies to: - all types of aircraft jacks; - axle jacks and hydraulic tail stanchions designed to be used at specific jacking points on the aircraft (examples see Annex A). Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3. This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-19:2005+A1:2009 en

€ 49.30

NEN-EN 12312-20:2005+A1:2009

Grondafhandelingsapparatuur voor vliegtuigen - Bijzondere eisen - Deel 20: Elektriciteitskasten

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of ground power equipment, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and service companies. This European Standard applies to: - ground power units either self-propelled or towable (Examples see Annex A); - ground power equipment when mounted on other GSE; - ground power accessories intended. Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3 or ground power equipment (including accessories for fixed equipment). This part of EN 12312 is intended to be used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 (for vehicles) and EN 1915-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12312-20:2005+A1:2009 en

€ 49.30

Metaalbewerkingsmachines

NEN-EN 693:2001+A2:2011

Gereedschapswerk具gen - Veiligheid - Hydraulische persen

This standard specifies technical safety requirements and measures to be adopted by persons undertaking the design (as defined in 3.11 of EN 292-1:1991), manufacture and supply of hydraulic presses which are intended to work cold metal or material partly of cold metal. This standard also covers presses, whose primary intended use is to work cold metal, which are to be used in the same way to work other sheet materials (such as cardboard, plastic, rubber or leather), and metal powder. The requirements in this standard take account of intended use, as defined in 3.12 of EN 292-1:1991. This standard presumes access to the press from all directions, deals with the hazards described in clause 4, and specifies the safety measures for both the operator and other exposed persons. This standard also applies to ancillary devices which are an integral part of the press. For the safeguarding of integrated manufacturing systems using presses, see also ISO 11161. 1.5 This standard does not cover machines whose principal designed purpose is: a) sheet metal cutting by guillotine; b) attaching a fastener, e.g. riveting, stapling or stitching; c) bending or folding; d) straightening; e) turret punch pressing; f) extruding; g) drop forging or drop stamping; h) compaction of metal powder; i) single purpose punching machines designed exclusively for profiles, e.g. for the construction industry.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 693:2001+A2:2011 en

€ 86.00

NEN-EN 1550:1997+A1:2008

Veiligheid van gereedschapsmachines - Veiligheidseisen voor het ontwerp en de constructie van werkstukhouders

This European Standard sets out the requirements and/or measures to remove the hazards and limit the risk on work holding chucks which are defined in 3.1. This European standard covers all the hazards relevant to this component. These hazards are listed in clause 4. The requirements of this standard concern designers, manufacturers, suppliers and importers of work holding chucks. This standard also includes information which the manufacturer shall provide to the user. This standard is primarily directed to components which are manufactured after the date of issue of this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1550:1997+A1:2008 en

€ 49.30

NEN-EN-ISO 6103:2014

Gebonden slijpmiddelen - Toelaatbare onbalans van slijpstenen bij levering - Statische beproeving

NEN-EN-ISO 6103 specifies the maximum permissible values of unbalances for bonded abrasive wheels with an outside diameter D = 125 mm and maximum operating speed vs = 16 m/s, in the as-delivered condition. It also specifies the method for measuring the unbalance and the practical method for testing whether a grinding wheel is acceptable or not. This International Standard is applicable to bonded abrasive wheels in the as-delivered condition. This International Standard is not applicable to - diamond, cubic boron nitride or natural stone grinding wheels, or - centreless control wheels, lapping and disc wheels, ball wheels or glass grinding wheels. - additional stresses on the arbor, the machine and its mounting, - excessive wear of the bearings, - vibration prejudicial to the quality of machining and increased internal stresses in the grinding wheel, and increased operator fatigue.

Type C

NEN-EN-ISO 6103:2014 en

€ 52.53

NEN-EN 12417:2001+A2:2009

Gereedschapsmachines - Veiligheid - Bewerkingscentra

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12417:2001+A2:2009 en

€ 74.30

NEN-EN 12417:2001+A2:2009/C1:2010

Gereedschapsmachines - Veiligheid - Bewerkingscentra

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12417:2001+A2:2009/C1:2010 en

€ 0.00

NEN-EN 12622:2009+A1:2013

Veiligheid van gereedschapsmachines - Hydraulische kantpersen

This European Standard specifies technical safety requirements and protective measures to be adopted by persons undertaking the design, manufacture and supply of hydraulic press brakes which are designed to work cold metal or material partly of metal and hereafter referred to as machines. This European Standard also covers hydraulic press brakes, whose primary intended use is the cold working of metal, which are to be used in the same way to work other sheet materials such as cardboard or plastic. The requirements in this European Standard take account of intended use, including foreseeable misuse as defined in 3.22 of EN ISO 12100-1:2003. This European Standard presumes access to the press brake from all directions, deals with the hazards described in Clause 4, and specifies the safety measures for both the operator and other exposed persons. This European Standard also applies to: - ancillary devices which are an integral part of the press brake, e.g. back gauges and adjustable front sheet supports; - machines which are integrated into an automatic production line where the hazards and risk arising are comparable to those of machine working separately. The requirements of this European Standard apply to all hydraulic press brakes whatever the technology used in their control system, e.g. electromechanical and/ or electronic. This European Standard does not apply to machines whose principal designed purpose is: a) sheet folding by rotary action; b) tube and pipe bending by rotary action; c) roll bending. This European Standard applies to machines built after the date of issue of this European Standard. This European Standard does not cover the safety aspect of automatic loading and unloading equipment. Some guidance how to take into account additional automatic loading and unloading equipment can be found in ISO 11161.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12622:2009+A1:2013 en

€ 86.00

NEN-EN 12717:2001+A1:2009**Veiligheid van gereedschapsmachines - Boormachines**

This standard specifies the technical safety requirements and measures to be adopted by persons undertaking the design, construction and supply (including installation and dismantling, with arrangements for transport and maintenance) of stationary drilling machines (see 3.1). This standard covers both manual and automatic drilling machines. These include but are not limited to: - pedestal drilling machines (see figure A.1); - radial arm drilling machines (see figure A.2); - coordinate table drilling machines (see figure A.3); - horizontal spindle drilling machines (see figure A.4); - multi-spindle drilling machines (see figure A.5) - turret type drilling machines with manual control of turret index.

Type C 2006/42/EG Geverniseerd

NEN-EN 12717:2001+A1:2009 en

€ 74.30

NEN-EN 13128:2001+A2:2009**Veiligheid van gereedschapsmachines - Frees- en kottermachines**

This standard specifies the technical safety requirements and measures to be adopted by persons undertaking the design, construction and supply (including installation and dismantling, with arrangements for transport and maintenance) of milling machines (see 3.1) including machines capable of performing boring operations (see 3.5). Machines covered by this standard include but are not limited to: - knee and column type milling machines (see figures C.1, C.2); - bed-type milling machines (see figure C.3); - multi-spindle milling machines (see figures C.4 and C.5); - plano-milling machines (see figures C.4 and C.5); - profile and contouring milling machines (see figure C.6), - milling and boring machines (see figure C.7). EN 13128:2001+A2:2009 (E) 5 This standard takes account of intended use including reasonably foreseeable misuse, maintenance, cleaning, and setting operations. It presumes access to the machine from all directions. It describes means to reduce risks to operators and other exposed persons. This standard also applies to workpiece transfer devices when they form an integral part of the machine. This standard deals with significant hazards relevant to milling machines when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). Hazards arising from other metal working processes (e.g. grinding, turning, forming, EDM, laser processing) are covered by other standards (see Bibliography). Milling machines with automatic tool changing capabilities are not covered by this standard (see prEN 12417:1996). This standard is not applicable to milling machines which were manufactured before the date of publication by CEN of this standard.

Type C 2006/42/EG Geverniseerd

NEN-EN 13128:2001+A2:2009 en

€ 74.30

NEN-EN 13128:2001+A2:2009/C1:2010**Veiligheid van gereedschapsmachines - Frees- en kottermachines**

Type C 2006/42/EG Geverniseerd

NEN-EN 13128:2001+A2:2009/C1:2010 en

€ 0.00

NEN-EN 13675:2004+A1:2010**Veiligheid van machines - Veiligheidseisen voor inrichtingen voor het maken en walsen van buizen en bijbehorende uitrusting voor de afwerkingslijn**

This European Standard describes the health and safety requirements of fully automated plant used in the process of tube forming, rolling and finishing (hereafter referred to as "plant"). It describes the foreseeable, significant hazards, hazardous situations, and events arising from plants and from particular machines integrated to form the plant; it does not describe the full health and safety requirements for each particular machine. It indicates preventive measures for avoiding the hazards and reducing the risks. It deals not only with circumstances where the machinery is used as intended, but also includes other conditions foreseen by the manufacturer, such as foreseeable faults, malfunctions or misuse. This European Standard specifies the requirements to ensure the safety of persons which are to be met during the design, assembly, transport, commissioning, operation, maintenance and decommissioning of the equipment. This standard assumes that installations are operated and maintained by adequately trained and competent personnel. Manual intervention for setting, adjustment and maintenance is accepted as part of the normal use of these machines.

Type C 2006/42/EG Geverniseerd

NEN-EN 13675:2004+A1:2010 en

€ 86.00

NEN-EN 13985:2003+A1:2009**Gereedschapsmachines - Veiligheid - Guillotinescharen**

This European Standard specifies technical safety requirements and measures to be adopted by persons undertaking the design as defined in 3.11 of EN 292-1:1991, manufacture and supply of guillotine shears which are intended to work cold metal or material partly of cold metal as defined in 3.1.7 and hereafter referred as machines. This standard also covers guillotine shears whose primary intended use is to work cold metal, which are to be used in the same way to work other sheet materials (e.g. cardboard, plastic, rubber, leather). The requirements in this standard take account of intended use, as defined in 3.12 of EN 292-1:1991. This standard presumes access to the guillotine shear from all directions, deals with the hazards described in clause 4, and specifies the safety requirements and/or protective measures for both the operator and other exposed persons. This standard also applies to ancillary devices which are an integral part of the guillotine shear. This standard also applies to machines which are integrated into an automatic production line where the hazards and risk arising are comparable to those of machines working separately. This standard includes guillotine shears in which energy is imparted to the blade by a number of means, e.g.: a) mechanically driven from a motor through a friction clutch; b) through a direct drive motor and brake; c) through hydraulic pressure; d) through pneumatic pressure. This standard does not cover machines whose principal designed purpose is: a) cutting in other than a straight line (e.g. at nibbling machines); b) cutting by continuous action at crocodile shears (see 3.4). This standard does not cover the safety requirements related to the use of PES or PPS. They will be dealt with at its next revision. This standard is not applicable to machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverniseerd

NEN-EN 13985:2003+A1:2009 en

€ 74.30

NEN-EN 14070:2003+A1:2009

Veiligheid van gereedschapsmachines - Transfermachines en machines voor speciale doeleinden

This standard specifies the technical safety requirements and protective measures to be adopted by persons undertaking the design, construction and supply (including information which must be provided for installation and dismantling, with arrangements for transport and maintenance) of transfer and special purpose machines (see 3.1). These machines are designed to process only a pre-specified metal or analogous material workpiece, or limited family of similar workpieces by means of a predetermined sequence of machining operations and process parameters.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14070:2003+A1:2009 en

€ 74.30

NEN-EN 14070:2003+A1:2009/C1:2010

Veiligheid van gereedschapsmachines - Transfermachines en machines voor speciale doeleinden

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14070:2003+A1:2009/C1:2010 en

€ 0.00

NEN-EN 14656:2006+A1:2010

Veiligheid van machines - Veiligheidseisen voor extrusiepersen voor staal en non-ferro metalen

This European Standard applies to: - extrusion presses from the exit side of the heater through associated handling, cooling and quenching equipment including, e.g. the puller, the hot saw, the run-out table, the stretcher, the cold saw, cold saw table and/or coiler when incorporated into the equipment, to a point where the extruded product is passed to associated finishing equipment. It specifies the health and safety requirements at all stages in the life of the equipment, its design, ordering, construction, use and disposal. This European Standard specifies requirements to be met by the manufacturer to ensure the health and safety of persons during construction, transport, commissioning, operation, maintenance and de-commissioning, as well as in the event of foreseeable faults as malfunctions which may occur in the equipment. This European Standard deals with all significant hazards, hazardous situations and events relevant to extrusion presses when they are used as intended and under conditions which are reasonably foreseeable by the manufacturer. This European Standard is not applicable to extrusion presses which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14656:2006+A1:2010 en

€ 74.30

NEN-EN 14673:2006+A1:2010

Veiligheid van machines - Veiligheidsvoorschriften voor hydraulische persen voor het smeden van staal en non-ferro metalen

This European Standard applies to: hydraulically powered open die forging presses for hot working; handling and cooling equipment connected with the control system of the forging line, e. g., manipulators, rotating type handling devices, die shifting devices, table devices and tool changing devices; handling equipment designed specifically to be used within the forging line, e. g., material manipulation devices, turnover or handling devices attached to fork lift trucks or cranes etc. It specifies the health and safety requirements at all stages in the life of the equipment, its design, ordering, construction, use and disposal. This European Standard specifies requirements to be met by the manufacturer to ensure the health and safety of persons during construction, transport, commissioning, operation, maintenance and de-commissioning, as well as in the event of foreseeable faults as malfunctions which may occur in the equipment. This European Standard deals with all significant hazards, hazardous situations and events relevant to "hydraulically powered open die hot forging presses" when they are used as intended and under conditions foreseeable by the manufacturer (see Clause 4). This European Standard does not cover: hydraulically controlled closed die forging presses for hot working; mechanically powered hot forging presses; mobile manipulators as defined in 3.4.2; standard transport and lifting equipment modified for use with material manipulation devices, turnover and handling devices such as for fork lift trucks and cranes. This European Standard is not applicable to machinery which was manufactured before the date of publication of this standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14673:2006+A1:2010 en

€ 74.30

NEN-EN 14677:2008

Veiligheid van machines - Secundaire staalverwerking - Machines en uitrusting voor de behandeling van vloeibaar staal

This European Standard specifies the general safety requirements for secondary steelmaking machinery and equipment (SSE) as defined in 3.1 to treat liquid steel. This European Standard covers machinery and equipment involved in the treatment process of liquid steel under vacuum or atmospheric pressure. This European Standard deals with all significant hazards, hazardous situations and events pertinent to SSE, when used as intended and under conditions foreseen by the manufacturer, but also includes foreseeable faults and malfunctions in case of misuse. This European Standard specifies the requirements to ensure the safety of persons which are to be met during the design, assembly, transport, commissioning, operation, maintenance and decommissioning of the equipment. This European Standard assumes that SSE are operated and maintained by adequately trained and competent personnel. Manual intervention for setting, adjustment and maintenance is accepted as part of the normal use of the equipment.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14677:2008 en

€ 86.00

NEN-EN 14681:2006+A1:2010

Veiligheid van machines - Veiligheidseisen voor machines en materieel voor het produceren van staal met elektrische vlamboogovens

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14681:2006+A1:2010 en

€ 74.30

NEN-EN 14753:2008

Veiligheid van machines - Veiligheidseisen voor machine en materieel voor het continu gieten van staal

This European Standard applies for plant (containing machinery and equipment) used in the process of continuous casting of liquid steel (hereafter referred to as continuous casting machine, CCM) as defined in 3.1 and illustrated in Annex B. This European Standard deals with all significant hazards, hazardous situations and events relevant to machinery and equipment for the continuous casting of steel, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the safety requirements to be met during design, assembly, transport, commissioning, operation, maintenance (as described in Clause 5) and decommissioning of the equipment. This European Standard assumes that the machinery and equipment of the plant is operated and maintained by adequately trained and competent personnel (see 7.4). Manual intervention for setting, adjustment and maintenance is accepted as part of the intended use of the plant. This European Standard assumes that the machinery is used with adequate workplace lighting conforming to EN 12464-1.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14753:2008 en

€ 74.30

NEN-EN 15061:2007+A1:2009

Veiligheid van machines - Veiligheidseisen voor de machinale verwerking van platen met aan elkaar gekoppelde machines

This European Standard defines the health and safety requirements of strip processing lines (see 3.1). This European Standard deals with all significant hazards, hazardous situations and events relevant for strip processing line machinery and equipment, when used as intended and under conditions foreseen by the manufacturer, but also includes foreseeable faults and malfunctions in case of misuse. This European Standard specifies the requirements to ensure the safety of persons which are to be considered and met during the design, assembly, transport, commissioning, operation, maintenance and decommissioning of the equipment.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15061:2007+A1:2009 en

€ 98.50

NEN-EN 15093:2008

Veiligheid van machines - Veiligheidseisen voor warme plaat walstuigen

This European Standard defines the general safety requirements for hot rolling mills for flat products as defined in 3.1. This European Standard deals with significant hazards, hazardous situations and events relevant to hot rolling mills for flat products. It deals not only with circumstances where the machinery is used as intended, but also includes other conditions foreseen by the manufacturer, such as foreseeable faults, malfunctions or misuse (see Clauses 4 and 5).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15093:2008 en

€ 86.00

NEN-EN 15094:2008

Veiligheid van machines - Veiligheidseisen voor koude plaat walstuigen

This European Standard specifies the safety requirements for cold rolling mills for flat products (coiled or as heavy plates) as defined in 3.1. This European Standard deals with significant hazards, hazardous situations and events relevant to cold rolling mills for flat products. It deals not only with circumstances where the machinery is used as intended, but also includes other conditions foreseen by the manufacturer, such as foreseeable faults, malfunctions or misuse (see clauses 4 and 5).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15094:2008 en

€ 86.00

NEN-EN 15949:2012

Veiligheid van machines - Veiligheidseisen voor staaf-, staal- en draadmolens

This European Standard defines the general safety requirements for hot rolling mills for long products as defined in 3.1. This European Standard deals with significant hazards, hazardous situations and events relevant to hot rolling mills for long products. It deals not only with circumstances where the machinery is used as intended, but also includes other conditions foreseen by the manufacturer, such as foreseeable faults, malfunctions or misuse (see Clauses 4 and 5). This applies also to hazards arising during various phases of the life of the machinery and equipment as described in 5.4 of EN ISO 12100:2010.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15949:2012 en

€ 86.00

NEN-EN-ISO 16089:2016**Gereedschapsmachines - Veiligheid - Stationaire slijpmachines**

NEN-EN-ISO 16089 specifies the requirements and/or measures to eliminate the hazards or reduce the risks in the following groups of stationary grinding machines which are designed primarily to shape metal by grinding: Group 1: Manually controlled grinding machines without power operated axes and without numerical control. Group 2: Manually controlled grinding machines with power operated axes and limited numerically controlled capability, if applicable. Group 3: Numerically controlled grinding machines. NOTE 1 For detailed information on the groups of grinding machines, see the definitions in 3.1 and 3.4. NOTE 2 Requirements in this International Standard are, in general, applicable to all groups of grinding machines. If requirements are applicable to some special group(s) of grinding machines only, then the special group(s) of grinding machine(s) is/are specified. This International Standard covers the significant hazards listed in Clause 4 and applies to ancillary devices (e.g. for workpieces, tools, and workpiece holding devices, handling devices), which are integral to the machine. This International Standard also applies to machines which are integrated into an automatic production line or grinding cell inasmuch as the hazards and risks arising are comparable to those of machines working separately. This International Standard also includes in Clause 7 a minimum list of safety-relevant information which the manufacturer has to provide to the user. See also ISO 12100:2010, Figure 2, which illustrates the interaction of manufacturer's and user's responsibility for the operational safety. The user's responsibility to identify specific hazards (e.g. fire and explosion) and reduce the associated risks can be critical (e.g. whether the central extraction system is working correctly). Where additional metalworking processes (e.g. milling, turning, laser processing) are involved, this International Standard can be taken as a basis for safety requirements. For specific information on hazards arising from other metalworking processes, which are covered by other International Standards, see the Bibliography. This International Standard applies to machines that are manufactured after the date of issue of this International Standard. This International Standard does not apply to stationary honing, polishing, and belt grinding machines and not to transportable motor-operated electric tools in accordance with IEC 61029-2-4 and IEC 61029-2-10

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 16089:2016 en

€ 179.33

NEN-EN-ISO 16093:2017**Gereedschapsmachines - Veiligheid - Zaagmachines voor koud metaal**

NEN-EN-ISO 16093 deals with all significant hazards, hazardous situations and events to sawing machines as defined in Clause 3, whose primary intended use is for sawing cold metal (ferrous and non-ferrous), or material partly of cold metal and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This document is applicable to (metal) sawing machines which are manufactured after the date of publication of this document. When additional processing (i.e. milling, boring, marking, finishing operation, etc.) is considered, this document can serve as a basis for safety requirements. For more detailed information, refer to the bibliography. This document deals with noise hazards but does not provide a full noise test code. It is intended to draft such a code in the next revision of this document. This document does not include requirements and safety measures for fire and explosion hazards. It is intended to deal with them in the next revision of this document.

Type C

NEN-EN-ISO 16093:2017 en

€ 161.21

NEN-EN 16774:2016**Machineveiligheid - Veiligheidseisen voor staal omzetters en verwante apparatuur**

NEN-EN 16774 applies for steel converter and its associated equipment (hereinafter referred to as converter plant) used in the process of carbon or stainless steel making as defined in 3.1 and illustrated in Annex B. This European Standard deals with significant hazards, hazardous situations and events relevant to the converter plant. It covers the intended use and foreseeable misuse. This European Standard specifies the safety requirements to be met during transport, assembly, commissioning, operation, maintenance (as described in Clause 5) and decommissioning/disassembly of the equipment. This European Standard applies to: Steel converter and its associated equipment for the oxygen steelmaking process - from hot metal/liquid steel and scrap charging; - via oxygen refining and stirring; - temperature measurement and sampling equipment; - up to tapping including slag retaining device; - cooling systems; - maintenance devices (e.g. relining device, tap hole repair device); - process related interfaces/interactions (e.g. according to design, controls) to - media, - primary and secondary gas cleaning plant, - material feeding systems and ladle alloying systems, - transfer cars for steel ladle and slag pot, and - charging/tapping equipment, e.g. crane, scrap chute, ladles and slag pots.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16774:2016 en

€ 41.00

NEN-EN-ISO 28881:2013**Gereedschapswerktuigen - Veiligheid - Vonkverspanende machines**

This International Standard specifies safety requirements and/or protective measures, applicable to EDM equipment and EDM systems, such as - manually controlled EDM die sinking or EDM drilling machines, - numerically controlled EDM die sinking or EDM drilling machines, and - numerically controlled EDM wire cutting machines intended to be adopted by persons undertaking the design, construction, installation and/or supply of such equipment. This International Standard also includes information to be provided by the manufacturer to the user. This International Standard is not applicable to arc eroding and electro-chemical machining equipment. This International Standard takes account of the precondition of the intended use as well as the reasonably foreseeable misuse, in normal workshop environments and non-explosive atmospheres, including transportation, installation, setting, maintenance, repair and dismantling for removal or disposal of EDM equipment and EDM systems. This International Standard is also applicable to auxiliary devices essential for EDM processing. This International Standard deals with all significant hazards, hazardous situations or hazardous events relevant to EDM equipment and EDM systems, where they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This International Standard is intended to apply to machines manufactured after the date of publication of this International Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 28881:2013 en

€ 161.21

NEN-EN-ISO 28881:2013/C1:2013

Gereedschapsmachines - Veiligheid - Vorkverspaningmachines

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 28881:2013/C1:2013 en

€ 0.00

Mijnbouwmachines

NEN-EN 1804-1:2001+A1:2010

Machines voor ondergrondse-mijnbouw - Veiligheidseisen voor aangedreven gewelfsteunen - Deel 1: Steueneenheden en algemene eisen

This standard specifies the safety requirements for support units when used as specified by the manufacturer or his authorised representative. Examples of support units are frame supports, chock supports, shield supports, paired frames and push-pull support systems including the components of advancing and anchoring devices which provide support functions. This part of the standard excludes fixing elements on the conveyor, coal-winning equipment, power set legs and rams, valves, hydraulic and electro-hydraulic control units, lighting and signalling facilities and other ancillary equipment. This standard applies to support units used at temperatures from -10° C to 60° C. This standard also applies to support components and support accessories which are provided if the support unit is fitted with stowing equipment. This standard identifies and takes account of: - Possible hazards which may be caused by the operation of support units; - Areas and operating conditions which may create such hazards; - Hazardous situations which may cause injury or may be damaging to health; This standard describes methods for the reduction of these hazards. A list of hazards covered appears in clause 4. This European standard does not establish the additional requirements for: - Specially corrosive environments; - Hazards occurring during construction, transportation, decommissioning; - Earthquake. This standard is applicable to all support units placed on the market for the first time, which are manufactured after the date on which this standard was published.

Type C 2006/42/EG Geverifieerd

NEN-EN 1804-1:2001+A1:2010 en

€ 74.30

NEN-EN 1804-2:2001+A1:2010

Machines voor ondergrondse mijnbouw - Veiligheidseisen voor hydraulisch aangedreven gewelfsteunen - Deel 2: Stempels en cilinders

This standard specifies the safety requirements for legs and rams when used as specified by the manufacturer or his authorised representative. Examples covered by the standard include legs, support rams and rams with their mechanical extensions, internal valves and safety devices, seals, hydraulic connections (up to the first hose or Type B valve, see Part 3) and their lifting points but excluding protective pipes and gaiters, external valves and hydraulic and electrohydraulic control systems. This standard applies to legs, support rams and rams used at ambient temperatures from -10 °C to 60 °C. This standard identifies and takes account of: Possible hazards which may be caused by the operation of legs, support rams and rams; - Areas and operating conditions which may create such hazards; - Hazardous situations which may cause injury or may be damaging to health. This standard describes methods for the reduction of these hazards. A list of hazards covered appears in clause 4. This standard is applicable to all legs, support rams and rams placed on the market for the first time and which are manufactured after the date on which this standard was published. This European standard does not establish the additional requirements for: - Specially corrosive environments; - Hazards occurring during construction, transportation, decommissioning; - Earthquake.

Type C 2006/42/EG Geverifieerd

NEN-EN 1804-2:2001+A1:2010 en

€ 61.30

NEN-EN 1804-3:2006+A1:2010

Machines voor ondergrondse-mijnbouw - Veiligheidseisen voor hydraulisch aangedreven gewelfsteunen - Deel 3: Hydraulische besturingssystemen

This document specifies the safety requirements for hydraulic control devices, including hydraulic valves and their control elements, valve combinations, control systems, pipes and hose assemblies, fittings, shut-off devices, measuring devices, filters, built-in pressure limiting and check valves in legs and rams and water spraying and dust suppression valves when used as specified by the manufacturer or his authorized representative. Excluded are electronic control devices, pressure generators, and internal valves of legs and rams (e.g. constant yield valves). Some components are dealt with in other parts of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 1804-3:2006+A1:2010 en

€ 61.30

NEN-EN 1889-1:2011

Machines voor ondergrondse-mijnbouw - Verrijdbare machines die ondergronds werken - Veiligheid - Deel 1: Voertuigen op rubberbanden

This European Standard specifies the safety requirements and tests for self-propelled rubber tyred vehicles as defined in 3.1 intended primarily for use in underground mining (i.e. as mine vehicles) and other underground workings (e.g. as tunnelling vehicles). The electrical supply voltage is limited to 1100 A.C. and 1500 D.C. This European Standard deals with all significant hazards, hazardous situations and hazardous events, applying to self-propelled, rubber-tyred vehicles, subject to being used according to their intended purpose and prevailing manufacturer's conditions and within the scope of foreseeable misuse. This European Standard describes appropriate action to be taken to avoid or minimize the risk of significant hazards. This European Standard does not include rubber tyred drilling rigs, which are covered by EN 791, or earth-moving machinery not intended primarily for use in underground mines, which are covered by EN 474 (all parts). This European Standard does not take account of specific hazards associated with special-purpose vehicles, e.g. tankers, explosives vehicles. This standard does not cover the use and operation of rubber-tyred vehicles being remotely controlled or operation in potentially explosive atmospheres. This European Standard applies to vehicles which are manufactured after the date of issue of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 1889-1:2011 en

€ 74.30

NEN-EN 1889-2:2003+A1:2009

Machines voor ondergrondse-mijnbouw - Verrijdbare machines die ondergronds werken - Veiligheid - Deel 2: Locomotieven

This European standard specifies the safety requirements and tests for rail locomotives for use in underground mining (i.e. mine locomotives) and other underground workings (e.g. tunnelling locomotives). This European standard deals with the technical requirements to minimise the hazards listed in clause 4 which can arise during the commissioning, the operation and the maintenance of locomotives when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This European standard does not address the special hazards associated with the rack drive of rack and pinion locomotives. This European standard does not deal with radiation and vibration. It does not address remote control locomotives or operation in potentially explosive atmospheres. Hazards due to noise are excluded from this standard, but a separate standard is in preparation where hazards due to noise will be addressed. This European standard applies to locomotives which are manufactured after the date of issue of this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1889-2:2003+A1:2009 en

€ 74.30

NEN-EN 12321:2003+A1:2009

Machines voor ondergrondse-mijnbouw - Veiligheidseisen voor schraaptransporteurs

This European Standard specifies the safety requirements for armoured face conveyors and covers, conveyor drive units, return units, line pans, chain assemblies, devices for tensioning and locking chains. This European Standard does not apply to stage loader ancillaries, armoured face conveyors which form part of mineral bunker systems or operate as spillage conveyors, to haulage systems and guides utilised by extraction machines, to the technical requirements for cable-less remote controls, to compressed air powered machines, or to the interfaces between the elements of the conveyor and other machine installations. Armoured face conveyors are designed for the transport of minerals and rock only.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12321:2003+A1:2009 en

€ 49.30

NEN-EN 14658:2005+A1:2010

Transporteurs - Algemene veiligheidseisen voor transporteurs voor ontginning in dagbouw van ligniet

This European Standard applies to mechanical continuous handling equipment used in opencast lignite mines and the particular mechanical continuous handling equipment used: to convey lignite or overburden from opencast mines; to convey residuals and tailings from lignite processing to opencast mines; to convey lignite, overburden or lignite treatment processing residuals and tailings from one opencast mine to another. This standard applies to continuous handling equipment operating in delimited site areas that are off-limits to the public and accessible only to authorized persons. It specifies the safety requirements for stationary, mobile and shiftable continuous handling equipment designed to transport bulk goods by continuous movement from a loading point to a discharge point. The standard considers the significant hazards that arise during the use, movement and shifting of continuous handling equipment, as well as the measures for eliminating or reducing these hazards provided the continuous handling equipment is used as intended and the remaining risk is foreseen and taken into account by the manufacturer. A complete list of all the hazards specified in EN 1050 is given in Annex A (normative). The requirements of this standard do not apply to equipment and systems manufactured and put into operation before the publication date of this standard. This standard does not cover: a) safety requirements of wireless remote control systems; b) hazards generated by noise; c) hazards generated by vibration; d) hazards generated by explosion; e) hazards generated by electromagnetic interference (EMC).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 14658:2005+A1:2010 en

€ 61.30

Oppervlaktebehandelingsapparatuur**NEN-EN 1539:2015**

Droogtoestellen en ovens, waarin brandbare stoffen vrij komen - Veiligheidseisen

NEN-EN 1539 deals with all significant hazards, hazardous situations and hazardous events relevant to ovens and dryers in which flammable substances are released by evaporation from and curing of coating materials. The specific significant risks related to the use of this machinery with foodstuff and pharmaceutical products are not dealt with in this European Standard. This European Standard is only applicable to machines which are used as intended and under the conditions which are foreseeable as malfunction by the manufacturer (see Clause 4). For ovens and dryers in which flammable substances are released by evaporation from and curing of coating materials, in which the concentration of these flammable substances shall not, under no circumstances, exceed 3 % of the LEL, EN 746-1 and EN 746-2 may be applied instead of this European Standard. This European Standard is not applicable to: - ovens for hardening metals; - enamelling plants; - portable heating systems for drying (for instance infrared radiant heaters, hot-air blowers, blow-dryers); - solvent recovery plants; - distillation and/or refraction plants; - textile dry-cleaning systems. This European Standard is not applicable to machinery manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1539:2015 en

€ 86.00

NEN-EN 1953:2013**Verstuif- en sputtapparatuur voor bekledingsmaterialen - Veiligheidseisen**

This European Standard deals with all significant hazards, hazardous situations and events which are relevant for both manual and automatic atomising and spraying equipment for application of coating materials on workpieces. In this standard, the term "machine" is used equivalently to "atomising and spraying equipment" and "applicator". Together with this standard, EN 50050, EN 50059, EN 50176, EN 50177 or EN 50348 give requirements for electrostatic applicators. The specific significant risks related to the use of this machinery with foodstuffs and pharmaceutical products are not dealt with in this standard. This standard is only applicable to machinery which is used as intended. It also covers hazards arising from conditions which are reasonably foreseeable by the manufacturer. Applicators can consist of the following parts: - atomising or spraying system; - trigger; - filter; - swivel joint; - safety and control systems; - non-pressurised gravity or siphon feed cup. This European Standard is not applicable to: - applicators designed for operating pneumatic pressure above 15 bar; - non-atomising equipment (e.g. extruding equipment, dispenser); - fluidised bed powder coating machinery; - equipment for the automated application of flock; - spray guns covered by EN 50580; - supply hoses and ducts; - high-pressure cleaner equipped with high pressure water jet machines according to EN 1829-1; - airbrushes for graphic and artistic works; - machinery for the supply and circulation of coating materials under pressure according to EN 12621; - water-jet cutters; This standard is not applicable to machinery manufactured before the date of its publication as a European Standard.- automated devices like robots or reciprocators (EN ISO 10218-1). This standard is not applicable to machinery manufactured before the date of its publication as a European Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1953:2013 en

€ 61.30

NEN-EN 12215:2004+A1:2009**Bekledingsinstallaties - Sputtcabines voor vloeibare organische materialen voor deklagen - Veiligheidseisen**

This document is applicable to spray booths as well as multizone spray booths for the application of organic liquid coating materials (paints, varnishes....), and deals with all significant hazards relevant to spray booths or multizone spray booths, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). A spray booth is an assembly of the following linked components: forced ventilation by one or more fans; dry air filtering and/or wet air washing systems, measuring and control devices, ventilation air heating system, automatic fire extinguishing equipment, warning devices, electrical apparatus, joined together within or at a partially or totally enclosed structure (limited by walls, called space) for the controlled processing of spray application of organic liquid coating material. This standard describes methods of verification of safety measures, information labels to be affixed to the spray booth and minimum usage requirements contained within the operators handbook. This standard does not cover: - spraying areas (spaces for application of organic liquid coating materials which are limited only by one side wall used for extraction of exhaust ventilation). - combined spray booths according to definition given in 3.2; - the limiting walls of spray booths if they are constituent parts of a building are not to be considered part of the machinery assembly; - the workroom or building used for the spraying of large size items (example: air-liner); - spraying equipment used in spray booths which is covered by EN 1953, EN 50050, and EN 50176. - Spray booths which are part of complex installations. This standard is not applicable to spray booths which are manufactured before the date of publication of this standard by CEN.

Type C

NEN-EN 12215:2004+A1:2009 en

€ 74.30

NEN-EN 12581:2005+A1:2010**Bekledingsinstallaties - Machines voor het aanbrengen van vloeibare organische materialen door dompelen en elektroforese - Veiligheidseisen**

This European Standard applies to the design and construction of machinery for dip coating and electrodeposition of organic liquid coating material to industrial items. This machinery consists of the following equipment: - Transport system including hoists; - Dip tank and safety tank; - forced ventilation system; - ancillary equipment such as pumps, filters, heaters. This European Standard deals with the significant hazards, hazardous situations and events relevant to dip and electrophoretic coating machinery when they are used as intended and under the conditions foreseen by the manufacturer. In addition, the equipment marking and minimum use requirements are specified.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12581:2005+A1:2010 en

€ 86.00

NEN-EN 12621:2006+A1:2010**Machines voor de toevoer en circulatie van bekledingsmaterialen onder druk - Veiligheidseisen**

This European Standard applies to the design and construction of machinery for the supply and circulation of coating and/or auxiliary materials under pressure - in the following called "machine" (see 3.1). The coating material is supplied by air pressure or airless. The pressure related parts of the machines covered are classified as no higher than category I under article 9 of the Pressure Equipment Directive 97/23/EC. This European Standard deals with the significant hazards, hazardous situations and events relevant to the machinery for the supply and circulation of coating and/or auxiliary materials under pressure, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). Machinery for the supply and circulation of coating and/or auxiliary materials under pressure consists of the following equipment: pump units; pressure vessels; non-pressurised containers; interconnecting pipes and hoses flanges, nozzles, couplings, supports, lifting equipment etc.; agitators; filters; pulsation damping devices; all safety devices (e.g. level monitoring equipment); equipment for heating and/or cooling of the coating materials. The machine may be fixed or mobile. 1.2 This European Standard excludes: pressure related hazards of equipment classified as higher than category 1 under article 9 of the Pressure Equipment Directive 97/23/EC; atomising and spraying equipment as dealt with in EN 1953:1998 and the supply hoses for this equipment; atomising and spraying equipment as dealt with in EN 50144-2-7:2001, EN 50260-2-7:2002 and the supply hoses for this equipment.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12621:2006+A1:2010 en

€ 61.30

NEN-EN 12753:2005+A1:2010**Thermische reinigingsinstallaties voor uitlaatgassen van oppervlaktebehandelingsinstallaties - Veiligheidseisen**

This European Standard is applicable to thermal cleaning systems for exhaust gas from surface treatment equipment/systems as given below in which the concentration of exhaust gas to be cleaned (for the purpose of this European Standard, named "process gas") at the inlet to the thermal cleaning system is safely limited within the concentration ranges given in 5.2.2.2. Surface treatment equipment includes: dryers according to EN 1539, curing equipment; flash-off areas; coating plants (e.g. closed spray booths, open fronted spray booths); machines using flammable solvents for the pre-treatment and cleaning of products or equipment (e.g. barrels, tins, cans or containers); related solvent handling equipment.

Type C 2006/42/EG Geverifieerd

NEN-EN 12753:2005+A1:2010 en

€ 74.30

NEN-EN 12757-1:2005+A1:2010**Mengmachines voor deklaagmaterialen - Veiligheidseisen - Deel 1: Mengmachines voor gebruik bij het herstel van voertuigen**

This European Standard applies to the design and construction of mixing machinery for liquid coating materials equipped with container of maximal volume = 10 l used by vehicle refinishers and their coating materials distributors. The pressure related parts of the machines covered are classified as no higher than category I under article 9 of the Pressure Equipment Directive 97/23/EC. This European Standard deals with all significant hazards, hazardous situations and events relevant to mixing machinery mentioned above, when they are used as intended and under the conditions foreseen by the manufacturer. Mixing machinery can operate by stirring or vibrating (shaking) and consists of the following equipment: - cabinet; - stirrer; - vibrator; - shaker; - drive unit and related devices; - container for coating material; - safety, measuring and control devices; - lighting; - heating equipment and/or air conditioning inside the mixing cabinet. The mixing machinery may be fixed or mobile

Type C 2006/42/EG Geverifieerd

NEN-EN 12757-1:2005+A1:2010 en

€ 61.30

NEN-EN 12921-1:2005+A1:2010**Machines voor oppervlaktereiniging en voorbehandeling van industriële producten met vloeistoffen of dampen - Deel 1: Algemene veiligheidseisen**

This standard applies to machines for surface cleaning and pre-treatment - in the following called "cleaning machines" - of industrial items using liquids or vapours, i.e. stationary machines and related equipment for automated and manual cleaning and pre-treatment processes.

Type C 2006/42/EG Geverifieerd

NEN-EN 12921-1:2005+A1:2010 en

€ 74.30

NEN-EN 12921-2:2005+A1:2009**Machines voor oppervlaktereiniging en voorbehandeling van industriële producten met vloeistoffen of dampen - Deel 2: Veiligheid van machines met op water gebaseerde reinigingsvloeistoffen**

This European Standard deals only with the significant hazards of machines for surface cleaning and pre-treatment (in the following called "cleaning machines") of industrial items using water based cleaning liquids in the mode of suspension, solution or dispersion of compounds or substances in water applied by immersion and/or spraying in one or more stages. This European Standard applies in combination with EN 12921-1. Both parts together cover all significant hazards relevant for cleaning machines for industrial items using liquids or vapours, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). The specific requirements specified in this standard take precedence over the respective requirements in EN 12921-1. This standard should be applied together with EN 12921-3 in case of release of flammable vapours from water based cleaning liquids. This European Standard applies together with EN 12921-3 and prEN 12921-4 in case of use of water based cleaning liquids of which evaporating can lead to hazards caused by explosive atmospheres. Water based cleaning liquids containing a quantity of halogenated solvents exceeding 2 % of the volume are considered hazardous with respect to the creation of a potentially explosive atmosphere. This European Standard does not apply to machinery and related equipment excluded from the scope of EN 12921-1. This European Standard does not apply to cleaning machines for industrial items using water based cleaning liquids which are manufactured before the publication of this standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12921-2:2005+A1:2009 en

€ 49.30

NEN-EN 12921-3:2005+A1:2009**Machines voor oppervlaktereiniging en voorbehandeling van industriële producten met vloeistoffen of dampen - Deel 3: Veiligheid van machines met ontvlambare reinigingsvloeistoffen**

This European Standard deals with the significant hazards of machines for surface cleaning and pre-treatment - in the following called "cleaning machines" - of industrial items using flammable cleaning liquids or a mixture of cleaning liquids, even in emulsion form, which can potentially create, even temporarily, a condition of flammability. This European Standard applies in combination with EN 12921-1. Both parts together cover all significant hazards relevant for cleaning machines of industrial items using liquids or vapours, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). The specific requirements specified in this European Standard take precedence over the respective requirements of EN 12921-1. To the extent of this document the terms combustible materials and flammable substance and explosive are equivalently used.

Type C 2006/42/EG Geverifieerd

NEN-EN 12921-3:2005+A1:2009 en

€ 61.30

NEN-EN 12921-4:2005+A1:2009

Machines voor oppervlaktever reiniging en voorbehandeling van industriële producten met vloeistoffen en dampen - Deel 4: Veiligheid van machines met gehalogeneerde oplosmiddelen

This European Standard specifies the significant hazards of machines for surface cleaning and pre-treatment - the following called "cleaning machines" - of industrial items using halogenated solvents, either pure or as a mixture. This European Standard applies together with EN 12921-1:2005. Both parts together cover all significant hazards relevant for cleaning machines of industrial items using liquids or vapours, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). The specific requirements specified in Part 4 take precedence over the respective requirements in EN 12921-1:2005. This European Standard applies together with EN 12921-3 in case of release of flammable vapours from the cleaning liquids. This European Standard does not apply to machinery and related equipment excluded from the scope of EN 12921-1:2005. This European Standard is not applicable to cleaning machines which are manufactured before the publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12921-4:2005+A1:2009 en € 61.30

NEN-EN 12981:2005+A1:2009

Bekledingsinstallaties - Sputtcabines voor het aanbrengen van organische deklagen - Veiligheidseisen

This European Standard is applicable to spray booths for spray application of organic coating powder, called in this European Standard "powder spray booths", i.e. machinery and related equipment for automated and/or manual powder coating application processes. This European Standard covers powder spray booths consisting of the following equipment: - forced ventilation system; - air filtering and coating powder recovery system; - coating powder recycling system; - delivery and circulating systems for coating powder (for instance hopper or tank, preparation and transfer new powder feeding); - air conditioning system; - automatic cleaning system; - monitoring and/or control systems; - fire detection and interlocking system; - explosion protection system; - mechanical aspects of product handling systems and reciprocators inside the powder spray booth; - electrical equipment; - powered doors and gates joined together within or at a partially or totally enclosed structure (limited by walls, called space) for the controlled processing of spray application of organic coating powder.

Type C 2006/42/EG Geverifieerd

NEN-EN 12981:2005+A1:2009 en € 74.30

NEN-EN 13355:2005+A1:2009

Bekledingsinstallaties - Gecombineerde cabines - Veiligheidsvoorzieningen

This document is applicable to combined booths for the application of organic liquid coating materials by an operator with maximum drying temperature of 100 °C and deals with all hazards significant for combined booths, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). To the extent of this document, a combined booth is considered an assembly of the following equipment: - forced ventilation by one or more fans, - ventilation air heating system (e. g. heat exchanger or burner), - power driven dampers, forced ventilation ducting, - dry air filtering and/or wet air washing systems, - automatic fire extinguishing equipment and additional specific electrical equipment, - control and power circuits joined together for the spraying and drying process of liquid coating material in a space totally enclosed provided with forced ventilation. - working pit, in special case. This document does not cover: a) booths for automatic spraying, powder spray booths, open booths, and portable heaters. b) design of the building foundations upon which a booth is installed; c) the civil engineering and building design where a booth is constructed as, or to use part of, a new or existing building; d) spraying equipment (see EN 1953), automatic devices for spraying systems like robots (see EN 775) or reciprocators or similar systems, conveyors, lifts and continuous handling equipment and systems (see EN 619). This document is not applicable to combined booths which are manufactured before the date of publication of this standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13355:2005+A1:2009 en € 74.30

NEN-EN 14462:2015

Apparatuur voor oppervlaktebehandeling - Geluidbeproevingscode voor oppervlaktebehandelingsapparatuur inclusief bijkomende apparatuur voor handling - Nauwkeurigheidsgraden 2 en 3

NEN-EN 14462 specifies standardized conditions for the determination, declaration and verification of airborne noise emission of the following surface treatment equipment: - machinery for cleaning and pre-treatment of industrial item surfaces (see EN 12921-1, EN 12921-2, EN 12921-3, EN 12921-4); - phosphating machinery; - plating machinery; - plasma surface treatment machinery; - machinery for the supply and/or circulation of coating materials under pressure (see EN 12621, EN 12757-1); - atomizing and spraying equipment for coating materials (see EN 1953, EN 50050-1, EN 50050-2, EN 50050-3, EN 50059, EN 50176, EN 50177, EN 50348); - coating plants (see EN 12215, EN 12581, EN 12981, EN 13355, EN 50223); - dryers, ovens and evaporating equipment (see EN 1539); thermal cleaning plants (incinerators) for exhaust gas from surface treatment plants (see EN 12753); - dry-ice blasting equipment. For the above surface treatment machinery, this European Standard gives provisions for the determination of - emission sound pressure levels at workstations and/or other specified positions and - sound power levels. This European Standard specifies noise emission measurement methods, mounting and operating conditions that shall be used for the test. The use of this document ensures the reproducibility of the determination of the noise emission characteristics within specified limits determined by the grade of accuracy of the basic noise emission measurement method used (see Clause 4 and Clause 5). Noise emission measurement methods allowed by this document are engineering methods (grade 2) and survey methods (grade 3). This European Standard does not apply to machines not explicitly listed in the scope: - printing, paper converting and paper making machinery and auxiliary equipment (see EN 13023); - abrasive blasting machinery see EN 1265.

Type C

NEN-EN 14462:2015 en € 61.30

NEN-EN 17059 Ontw.**Plateren en anodiseren van kabels - Veiligheidseisen**

This European Standard describes all significant hazards, hazardous situations and events relating to plating and anodizing lines, when used as intended and in compliance with the foreseeable conditions of the manufacturer. In addition, procedures for testing and measuring safety requirements, marking of equipment and minimum operation requirements are be specified. For reference to plating lines and anodizing lines the term machinery is used in this standard. This standard applies to the design and construction of plating lines and anodizing lines including its transport systems for surface treatment of industrial products by means of inorganic or organic electrolytes or by means of other process chemistries. Plating lines and anodizing lines in terms of this standard are arrangements of process tanks for - electrolytic treatment of work pieces (e.g. electrocleaning, passivation, electroetching, burnishing, electrolytic polishing and brightening, drying); - wet chemical treatment of work pieces (e.g. degreasing, passivation, chemical polishing, etching, pickling, blackening); - electrolytic and electro-less metal deposition, even on non-metallic work pieces made electrically conductive by corresponding treatment; - changing of substance composition on the surface of metallic work pieces e.g. burnishing, blackening, phosphatizing, chromating and; - anodizing (anodic oxidation); including rinsing tanks and the corresponding transporter equipment (hoists), where the products are lifted in and out of tanks. This standard distinguishes between the following types of plating lines: Type 1: manual plating lines Type 2: semi-automatic lines Type 3: fully automatic lines Furthermore, it specifies equipment marking and requirements on user information. This standard does not deal with hazards resulting from machinery parts above category 1 of PED. This standard is not applicable to: - transport systems of carrousel lines; - equipment for the preparation and treatment of water and wastewater; - machinery for dip coating and electro-deposition of organic liquid coating material (EN 12581); - horizontal plating lines (e.g. printed circuit board, etching, reel to reel, continuous plating lines); - machinery for surface cleaning and surface pre-treatment of industrial items using liquids or vapours (EN 12921-1, EN 12921-2, EN 12921-3, EN 12921-4).

Type C

NEN-EN 17059:2016 Ontw. en

€ 41.00

Pompen en compressoren**NEN-EN 809:1998+A1:2009****Pompen en pompeenheden voor vloeistoffen - Algemene veiligheidseisen**

This European Standard establishes the technical safety requirements for: - constructing; - assembling; - erecting; - operating; - servicing; a liquid pump or pump unit. It contains a list of significant hazards, which can arise with the use of a liquid pump or pump unit, and establishes the requirements and/or protective measures which will lead to a reduction of the risks. Liquid pumps covered by this European Standard are: - rotodynamic pumps; - rotary positive displacement pumps; - reciprocating displacement pumps; supplied separately without drive (electric motor or internal combustion engine). In general, pumps are defined as being terminated by their inlet and outlet connections as well as by their shaft ends. Pumps supplied in this form are usually called bareshaft pumps. They are 'machines' in the definition of the Machinery Directive. The assembly of a bareshaft pump with its driver can require measures that are outside the scope of this European Standard. Pump units are described as: Liquid pumps together with a driver and including transmission elements, baseplates, and any auxiliary equipment. This European Standard does not deal either with the technical safety requirements for the design or manufacture of drivers nor of auxiliary equipment. It does not set down either requirements for the risks directly arising from means provided for the portability, transportability and mobility of pump units during or between periods of their operation, nor the requirements for transmission shafts linking a tractor or other self-propelled machinery to a pump. This European Standard does not cover pumps and pump units for the following applications: - pumps and pump units whose only power source is directly applied manual effort; - pumps and pump units for medical use used in direct contact with the patient; - pumps and pump units specially designed or put into service for nuclear purposes which, in the event of failure, can result in an emission of radioactivity; - pumps and pump units for use on seagoing vessels or mobile off-shore units; - pumps and pump units specially designed for military or police purposes. Neither does it cover pumps and pump units for hydraulic power transmission. Specific requirements for particular features of pumps additional to the common requirements set out in this standard can be found in other standards such as EN 1028, EN 1151, EN 1829, and in the European Standards on submersible pump units and for liquid pumps for the use in agrifoodstuff industries. This European Standard is not applicable to pumps and pump units which are manufactured before the date of publication of this European Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 809:1998+A1:2009 en

€ 61.30

NEN-EN 809:1998+A1:2009/C1:2010**Pompen en pompeenheden voor vloeistoffen - Algemene veiligheidseisen**

modification to 5.2.2.1

Type C 2006/42/EG Geharmoniseerd

NEN-EN 809:1998+A1:2009/C1:2010 en;fr;de

€ 0.00

NEN-EN 1012-1:2010**Compressoren en vacuümpompen - Veiligheidseisen - Deel 1: Luchtcompressoren**

This part of EN 1012 is applicable to compressors and compressor units having an operating pressure greater than 0,5 bar and designed to compress air, nitrogen or inert gases. This document deals with all significant hazards, hazardous situations and events relevant to the design, installation, operation, maintenance, dismantling and disposal of compressors and compressor units, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This part of EN 1012 includes under the general term compressor units those machines which comprise: - the compressor; - a drive system; - any component or device which is necessary for operation. This part also covers the general requirements relating to process gas compressors; for specific requirements see prEN 1012-3 which applies. This part covers compressors driven by any power media, including battery powered and which are fitted in or used with motor vehicles. This part of EN 1012 does not cover requirements for compressors used in potentially explosive atmospheres. This part of EN 1012 is not applicable to compressors which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1012-1:2010 en

€ 74.30

NEN-EN 1012-2:1996+A1:2009**Compressoren en vacuümpompen - Veiligheidseisen - Deel 2: Vacuümpompen**

This standard is applicable to all vacuum pumps, vacuum pump combinations and vacuum pumping systems. The standard lists the significant hazards associated with vacuum pumps and specifies safety requirements applicable to the design, installation, operation, maintenance and dismantling of vacuum pumps during their foreseeable life and subsequent disposal. The scope does not include pumps designed to pump continuously on open systems where the pump inlet pressure is above 75 kPa (750 mbar) absolute, i.e. vacuum cleaners, ventilation fans). Vacuum pumps intended for use in special applications shall also comply with any specific standards relating to those applications.

Type C 2006/42/EG Geverifieerd

NEN-EN 1012-2:1996+A1:2009 en

€ 61.30

NEN-EN 1012-3:2013**Compressoren en vacuümpompen - Veiligheidseisen - Deel 3: Procescompressoren**

This European Standard is applicable to process gas compressors and process gas compressor units having an operating pressure greater than 0,5 bar (gauge), an input shaft power greater than 0,5 kW and designed to compress all gases other than air, nitrogen or inert gases which are covered in Part 1. This document deals with all significant hazards, hazardous situations and events relevant to the design, installation, operation, maintenance, dismantling and disposal of process gas compressors and process gas compressor units, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This part of EN 1012 includes under the general term compressor units those machines which comprise: - the compressor; - a drive system including the prime mover; - any component or device supplied which is necessary for operation. This part of EN 1012 is not applicable to compressors which are manufactured before the date of publication of this document by CEN. The requirements of this European Standard do not take into account the interaction between the compressor/compressor unit and other processes carried out on site. Excluded are: - refrigerant compressors used in refrigerating systems or heat pumps for which the safety requirements are given in EN 60335-2-34 or EN 12693; - the specification of performance levels and/or safety integrity levels for safety related parts of control systems. Performance levels and/or safety integrity levels are an important aspect of compressor design and should be determined by the manufacturer and the user based on a risk assessment (see Introduction). This European Standard does not cover those safety aspects of road transport dealt with by EC legislation for trailers.

Type C 2006/42/EG Geverifieerd

NEN-EN 1012-3:2013 en

€ 110.00

NEN-EN 1829-1:2010**Hogedrukreinigers met een waterstraal - Veiligheidseisen - Deel 1: Machines**

This European Standard contains safety-related requirements for high pressure water jet machines with drives of all kinds (e.g. electric motor, internal combustion engine, air and hydraulic) in which pumps are used to generate pressure. This document deals with all significant hazards, hazardous situations and events arising during assembly, erection, operation and servicing relevant to high pressure water jet machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). All references to high pressure water jet machines within this document includes machines for one or more of the following industrial applications: cleaning; surface preparation; material removal; readjustment of concrete; cutting. This document applies to mobile and fixed high pressure water jet machines, in which the water pressure is generated by a pressure generator/pump and in which the maximum allowable working pressure is more than the upper limit fixed in the scope of EN 60335-2-79.

Type C 2006/42/EG Geverifieerd

NEN-EN 1829-1:2010 en

€ 61.30

NEN-EN 1829-2:2008**Hogedruksputmachines - Veiligheidseisen - Deel 2: Slangen, slangverbindingen en verbindingselementen**

This European Standard applies to hoses, hose lines and connectors intended to be used with high-pressure water jet machines within the scope of prEN 1829-1. This European Standard deals with all significant hazards, hazardous situations and events relevant to the equipment in the scope, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see clause 4). This European Standard deals with safety requirements to minimise the significant hazards which can arise from assembling, operating and servicing of hoses, hose lines and connectors for use with high pressure water jet machines (see clause 5). The hazard due to scalding from hot liquid or from irritation / burning of any added chemicals is not covered in this European Standard. This European Standard is not applicable to hoses, hose lines and their accessories, which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1829-2:2008 en

€ 49.30

NEN-EN 1829-2:2008/C1:2011**Hogedruksputmachines - Veiligheidseisen - Deel 2: Slangen, slangverbindingen en verbindingselementen**

Type C 2006/42/EG Geverifieerd

NEN-EN 1829-2:2008/C1:2011 en;fr;de

€ 0.00

NEN-EN-ISO 2151:2008**Akoestiek - Compressoren en vacuümpompen - Bepaling van geluidsemisie - Praktijkmethode (Graad 2)**

This International Standard specifies methods for the measurement, determination and declaration of the noise emission from portable and stationary compressors and vacuum pumps. It prescribes the mounting, loading and working conditions under which measurements are to be made, and includes measurement or determination of the noise emission expressed as - the sound power level under specified load conditions, - the emission sound pressure level at the work station under specified load conditions.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 2151:2008 en

€ 106.87

NEN-EN 12162:2001+A1:2009**Vloeistofpompen - Veiligheidsvoorschriften - Procedure voor hydrostatische beproeving**

This standard specifies the hydrostatic test procedure to be applied to pressure containing parts of all types of liquid pumps including any auxiliary equipment making up a pump unit as described in the scope of EN 809:1998, except : domestic water pumps within the scope of EN 60335-2-41:1996 or EN 60335-2-51:1997 ; domestic circulation pumps within the scope of EN 1151:1999 ; fire-fighting pumps with primers within the scope of EN 1028-1:2002+A1:2008 and EN 1028- 2:2002+A1:2008;" pump parts with a maximum allowable working pressure below 0.1 bar. Requirements are included for applying a hydrostatic test at different pressures to separate zones within a pump which are subject to different allowable maximum working pressures. This standard is for pumps and pump units which are placed upon the market after the publication date of the standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12162:2001+A1:2009 en

€ 49.30

NEN-EN 13951:2012**Vloeistofpompen - Veiligheidseisen - Uitrusting voor diervoeder - Ontwerpregels om hygiëne te garanderen**

This European Standard deals with the special technical safety requirements for liquid pumps and pump units operating with agrifood-stuff. This European Standard is intended to be used with EN 809 to give the additional requirements for hazards arising from the pumping of substances intended for human and domestic animal consumption (see Clause 4). This European Standard also establishes requirements and/or measures for the reduction of risks during use, including misuse foreseeable by the manufacturer. This European Standard is not intended to be used for pumps and pump units at any stage in the public water supply, nor for pumps handling pharmaceutical products, nor for any other application for which more appropriate standards exist. The pumps and pump units covered by this European Standard are the following: rotodynamic pumps; rotary positive displacement pumps; reciprocating positive displacement pumps. Pumps dealing with agrifood-stuff which are not indicated in this scope are potentially covered by EN 1672-2:2005+A1:2009. This document is not applicable to liquid pumps for agrifoodstuff applications which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13951:2012 en

€ 61.30

NEN-EN-ISO 20361:2015**Vloeistofpompen en pompeenheden - Geluidbeproevingscode - Nauwkeurigheidsklasse 2 en 3**

NEN-EN-ISO 20361 specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration, and verification of the airborne noise emission of liquid pumps or pump units. It specifies the noise measurement methods and the operating and mounting conditions that shall be used for the test. Noise emission characteristics include emission sound pressure levels at specified positions and the sound power level. The determination of these quantities is necessary for - declaring the noise emission values, and - purpose of noise control at source at the design stage. The determination of these quantities is also necessary for comparing the noise emitted by liquid pumps on the market. The use of this International Standard ensures the reproducibility of the determination of the airborne noise-emission characteristics within specified limits determined by the grade of accuracy of the basic airborne noise measurement method used. Noise measurement methods according to this International Standard are engineering methods (grade 2) and survey methods (grade 3). This International Standard does not deal with the characterization of the structure-borne sound and liquid-borne noise generated by liquid pumps.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 20361:2015 en

€ 106.87

Robots (industriële)**NEN-EN-ISO 10218-1:2011****Robots en robot apparatuur - Veiligheidseisen - Deel 1: Industriële robots**

This part of ISO 10218 specifies requirements and guidelines for the inherent safe design, protective measures and information for use of industrial robots. It describes basic hazards associated with robots and provides requirements to eliminate, or adequately reduce, the risks associated with these hazards. This part of ISO 10218 does not address the robot as a complete machine. Noise emission is generally not considered a significant hazard of the robot alone, and consequently noise is excluded from the scope of this part of ISO 10218. This part of ISO 10218 does not apply to non-industrial robots, although the safety principles established in ISO 10218 can be utilized for these other robots.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 10218-1:2011 en

€ 143.10

NEN-EN-ISO 10218-2:2011**Robots en robot apparatuur - Veiligheidseisen voor industriële robots - Deel 2: Robot systemen en integratie**

This part of ISO 10218 specifies safety requirements for the integration of industrial robots and industrial robot systems as defined in ISO 10218-1, and industrial robot cell(s). The integration includes the following: a) the design, manufacturing, installation, operation, maintenance and decommissioning of the industrial robot system or cell; b) necessary information for the design, manufacturing, installation, operation, maintenance and decommissioning of the industrial robot system or cell; c) component devices of the industrial robot system or cell. This part of ISO 10218 describes the basic hazards and hazardous situations identified with these systems, and provides requirements to eliminate or adequately reduce the risks associated with these hazards. Although noise has been identified to be a significant hazard with industrial robot systems, it is not considered in this part of ISO 10218. This part of ISO 10218 also specifies requirements for the industrial robot system as part of an integrated manufacturing system. This part of ISO 10218 does not deal specifically with hazards associated with processes (e.g. laser radiation, ejected chips, welding smoke). Other standards can be applicable to these process hazards.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 10218-2:2011 en

€ 161.21

NEN-EN-ISO 13482:2014**Robots en robot apparatuur - Veiligheidseisen voor persoonlijke servicerobot**

NEN-EN-ISO 13482 specifies requirements and guidelines for the inherently safe design, protective measures, and information for use of personal care robots, in particular the following three types of personal care robots: - mobile servant robot; - physical assistant robot; - person carrier robot. These robots typically perform tasks to improve the quality of life of intended users, irrespective of age or capability. This International Standard describes hazards associated with the use of these robots, and provides requirements to eliminate, or reduce, the risks associated with these hazards to an acceptable level. This International Standard covers human-robot physical contact applications. This International Standard presents significant hazards and describes how to deal with them for each personal care robot type. This International Standard covers robotic devices used in personal care applications, which are treated as personal care robots. This International Standard is limited to earthbound robots. This International standard does not apply to: - robots travelling faster than 20 km/h; - robot toys; - water-borne robots and flying robots; - industrial robots, which are covered in ISO 10218; - robots as medical devices; - military or public force application robots. The scope of this International Standard is limited primarily to human care related hazards but, where appropriate, it includes domestic animals or property (defined as safety-related objects), when the personal care robot is properly installed and maintained and used for its intended purpose or under conditions which can reasonably be foreseen. This International Standard is not applicable to robots manufactured prior to its publication date. This International Standard deals with all significant hazards, hazardous situations or hazardous events as described in Annex A. Attention is drawn to the fact that for hazards related to impact (e.g. due to a collision) no exhaustive and internationally recognized data (e.g. pain or injury limits) exist at the time of publication of this International Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 13482:2014 en

€ 161.21

Rubber- en kunststofverwerking (machines voor -)**NEN-EN 201:2009****Machines voor rubber en kunststoffen - Spuitgietmachines - Veiligheidseisen**

This European Standard specifies the essential safety requirements for injection moulding machines for the processing of plastics and/or rubber. All hazards listed in Clause 4 are covered by this standard. The following machines are not covered: - machines on which the clamping unit can only be operated by the physical force of the operator; - injection moulding machines with pneumatic drives for the platen movement; - injection moulding machines with vertical platen movements driven by an electrical axis; - blow moulding machines associated with an injection process (EN 422); - machines for reaction injection moulding (RIM) (EN 1612-1); - presses (EN 289); - footwear moulding machines covered by EN 1845. The safety requirements for the interaction between injection moulding machines and ancillary equipment are specified. This standard covers magnetic clamping systems only if: - machines have horizontal clamping units; and - the mould area is protected by guards; and - such systems are delivered at the same time as the injection moulding machine by the machine manufacturer.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 201:2009 en

€ 110.00

NEN-EN 289:2014**Machines voor kunststoffen en rubber - Spuitgietmachines met en zonder overdracht - Veiligheidseisen**

NEN-EN 289 specifies the essential safety requirements for compression moulding machines and transfer moulding machines for the moulding of plastics and/or rubber with a closing movement more than 6 mm. In this document a compression moulding machine or transfer moulding machine as described above is designated by the term "press". This document deals with all significant hazards, hazardous situations and events relevant to presses, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. The safety requirements are specified for the additional hazards arising from: - shuttle/turn tables used for loading/unloading and/or cooling, - magnetic clamping systems. For other ancillary equipment, as defined in 3.7, that is not part of the press, only the requirements for the interaction between presses and ancillary equipment, especially loading and unloading devices are specified. The following machines or units are excluded: - pneumatic presses for plastic and rubber; - injection moulding machines (see EN 201:2009); - tyre curing machines (see prEN 16474); - presses for curing inner tubes and curing bags; - hydraulic presses for the cold working of metals as covered by EN 693:2001+A2:2011; - mechanical presses for the cold working of metals as covered by EN 692:2005+A1:2009; - pneumatic presses for the cold working of metals as covered by EN 13736:2003+A1:2009; - thermoforming machines (see EN 12409:2008+A1:2011); - reaction injection moulding (RIM) machines (see EN 1612-1:1997+A1:2008); - the extruder of the carousel machine (see EN 1114-1:2011). This standard does not cover: - hazards caused by the processing of materials which may lead to a risk of explosion; - the requirements of Directive 94/9/CE concerning equipment and protective systems intended for use in potentially explosive atmospheres; - requirements for the design of exhaust ventilation systems. This document is not applicable to presses manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 289:2014 en

€ 74.30

NEN-EN 422:2009**Machines voor rubber en kunststoffen - Matrijsblaasmachines - Veiligheidseisen**

This European Standard covers essential health and safety requirements for the design of blow moulding machines for the processing of plastics. The significant hazards inherent in blow moulding machines are listed in Clause 4. This European Standard does not cover dip blow moulding machines. This European Standard does not cover hazards due to the use of fluorine or other toxic fluids. The safety requirements for the interaction between blow moulding machines and ancillary equipment are stipulated. The technical safety requirements for the design of this equipment are not covered. This European Standard does not cover the requirements for the design of the exhaust system. The European Standard does not cover noise hazards. This European Standard is not applicable to blow moulding machines which are manufactured before the date of its publication as an EN. A transition period until 29 December 2009 is foreseen during which the manufacturer may choose to apply either this or the previous version of the standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 422:2009 en

€ 61.30

NEN-EN 1114-1:2011

Machines voor rubber en kunststof - Extrusiepersen en extrusie-installaties - Deel 1: Veiligheidseisen voor extrusiepersen

This European Standard specifies all significant hazards, hazardous situations and events relevant to all types of screw extruders for plastics and rubber, when they are used as intended and under conditions of misuse which are foreseeable by the manufacturer (see Clause 4). This European Standard additionally covers the following feeding systems: - hoppers; - single roller feed; - double roller feed; - crammer feeder; and the following ancillary equipment which form part of or are attached to the extruder: - screen changers; - melt/gear pumps; - melt pipes and adaptors; - static mixers; - extruder head that give initial shape to the extruded material. An extruder conforming to this document is not regarded as a pressure vessel as defined in the Pressure Equipment Directive 97/23/EC.

Type C 2006/42/EG Geverifieerd

NEN-EN 1114-1:2011 en

€ 61.30

NEN-EN 1114-2:1998+A1:2008

Machines voor kunststoffen en rubber - Extrusiepersen en extrusie-installaties - Deel 2: Veiligheidseisen voor granulatoren

This European Standard specifies safety requirements for the design and construction, in respect of the hazards listed in clause 4 and dealt with in clause 5, of the following kinds of die face pelletisers used with extruders for pelletising of plastics and rubber: Underwater pelletisers; Water ring pelletisers; Dry pelletisers; Centrifugal pelletisers; Knife rotor pelletisers. Strand pelletisers are not subject to this standard. They are dealt with in a separate standard being produced by CEN/TC 145/WG6. This standard does not cover requirements for the design of any exhaust system. This standard applies to machines which are manufactured after the date of publication by CEN of the standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 1114-2:1998+A1:2008 en

€ 49.30

NEN-EN 1114-3:2001+A1:2008

Machines voor rubber en kunststoffen - Extrusiepersen en extrusie-installaties - Deel 3: Veiligheidseisen voor afvoerinrichtingen

This European Standard contains the safety requirements for the design and construction of haul-offs used in extrusion lines for processing plastics and rubber for the hazards identified in clause 4. The following kinds of haul-offs are covered: - caterpillar haul-offs; - belt haul-offs; - capstan haul-offs; - belt capstan haul-offs; - roller haul-offs. The machine begins at the material inlet opening and ends at the material outlet. Cutting units which are integrated with or attached to the haul-off are not covered. Take-off devices used at film or sheet lines are not covered. Chemical, toxicological and fire hazards which could occur for example in continuous vulcanisation plants due to the materials processed are not dealt with. Unwinding and winding machines are not subject to this standard. They are being dealt with in a separate standard being produced by another working group of CEN/TC 145.

Type C 2006/42/EG Geverifieerd

NEN-EN 1114-3:2001+A1:2008 en

€ 61.30

NEN-EN 1114-3 Ontw.

Machines voor rubber en kunststoffen - Extrusiepersen en extrusie-installaties - Deel 3: Veiligheidseisen voor afvoerinrichtingen

This draft European Standard specifies the essential safety requirements applicable to the design and construction of haul-offs for cable, cable core, profiles and pipes used in extrusion lines for processing plastic and rubber for the hazards identified in Annex A. The following kinds of haul-offs are covered: - caterpillar haul-offs; - belt haul-offs; - capstan haul-offs; - belt capstan haul-offs; - roller haul-offs. The machine begins at the product inlet opening and ends at the product outlet. Cutting units which are integrated with or attached to the haul-off are not covered. Take-off devices used on film or sheet lines are not covered. Unwinding and winding machines are not subject to this standard. They are being dealt with in a separate standard being produced by another working group of CEN/TC 145. This European Standard is not applicable to haul-offs that are manufactured before the date of its publication.

Type C

NEN-EN 1114-3:2015 Ontw. en

€ 29.20

NEN-EN 1417:2014

Machines voor kunststoffen en rubber - Walsen - Veiligheidseisen

NEN-EN 1417 deals with all significant hazards, hazardous situations and events relevant to two-roll mills for the processing of rubber and/or plastics, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard covers two-roll mills as defined in 3.1. This European Standard does not deal with the design of a local exhaust ventilation system that may be necessary in specific applications of the machine not known by the manufacturer. This European Standard is not applicable to two-roll mills manufactured before the date of its publication as an European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 1417:2014 en

€ 74.30

NEN-EN 1612:2017

Machines voor kunststoffen en rubber - Reactie-gietmachines - Deel 1: Veiligheidseisen voor meet- en doseereenheid

This standard specifies the health and safety requirements for the design of metering and mixing units for reaction moulding machines. The significant and specific hazards are listed in clause 4 and are dealt with in this standard. This standard applies to metering and mixing units manufactured after the date of publication of this standard.

Type C

NEN-EN 1612:2016 Ontw. en

€ 29.20

NEN-EN 1612-1:1997+A1:2008

Machines voor kunststoffen en rubber - Reactie-gietmachines - Deel 1: Veiligheidseisen voor meet- en doseereenheid

This standard specifies the health and safety requirements for the design of metering and mixing units for reaction moulding machines. The significant and specific hazards are listed in clause 4 and are dealt with in this standard. This standard applies to metering and mixing units manufactured after the date of publication of this standard.

Type C 2006/42/EG Geverniseerd

NEN-EN 1612-1:1997+A1:2008 en

€ 49.30

NEN-EN 1612-2:2000+A1:2008

Machines voor kunststoffen en rubber - Reactie-gietmachines - Deel 2: Veiligheidseisen voor reactie-gietinstallaties

This standard covers the essential health and safety requirements for the design of reaction moulding plant with the exception of metering and mixing units (for these see part 1). The significant and specific hazards are listed in clause 4 and are dealt with in this standard. This standard does not cover completely the hazards arising from the use of highly flammable additives, for example pentane used as a blowing agent (see 4.3), because these hazards depend to a large extent on the additives and process used. This standard does not cover the hazards due to noise generated by the cutting unit, which is the only significant source of noise at such plant. This standard does not cover the requirements for the design of exhaust systems. This standard does not cover the hazards arising from the assembly of separate units not supplied at the same time by the same manufacturer. This standard applies to reaction moulding plant manufactured after the date of publication of this standard.

Type C

NEN-EN 1612-2:2000+A1:2008 en

€ 49.30

NEN-EN 12012-1:2007+A1:2008

Machines voor kunststoffen en rubber - Verkleiningsmachines - Deel 1: Veiligheidseisen voor snijmolens

This document specifies the essential safety requirements applicable to the design and construction of blade granulators used to reduce objects and materials made from plastics and rubber into granules. The machine begins with the outer edge of the feed opening, or feeding device if it is an integral part of the machine, and ends with the discharge area. Only the significant hazards listed in clause 4 and dealt with in clause 5 are subject to this document. This document does not deal with hazards caused by processing harmful materials. This document is not applicable to machines which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geverniseerd

NEN-EN 12012-1:2007+A1:2008 en

€ 61.30

NEN-EN 12012-1 Ontw.

Machines voor rubber en kunststoffen - Verkleiningsmachines - Deel 1: Veiligheidseisen voor versnijders en versnipperaars

This European Standard specifies the essential safety requirements applicable to the design and construction of blade granulators and shredders used to reduce the size of products made from plastics and/or rubber. Machines considered in this European Standard begin at the outer edge of the feeding device/feed opening and end at the discharge area. This European Standard deals with all significant hazards, hazardous situations or hazardous events that are listed in Annex A, when blade granulators and shredders are used as intended and under conditions of misuse that are reasonably foreseeable by the manufacturer. This European Standard does not deal with - equipment for feeding material or discharging processed material that is not an integral part of the machine, - hazards caused by processing materials that could be hazardous to health, - safety measures to reduce the risk from ignition of flammable residues in material to be processed; - requirements for local exhaust ventilation systems.

Type C

NEN-EN 12012-1:2015 Ontw. en

€ 29.20

NEN-EN 12012-2:2007+A2:2008

Machines voor kunststoffen en rubber - Verkleiningsmachines - Deel 2: Veiligheidseisen voor strenggranulatoren

This document specifies the essential safety requirements applicable to the design and construction of blade granulators used to reduce objects and materials made from plastics and rubber into granules. The machine begins with the outer edge of the feed opening, or feeding device if it is an integral part of the machine, and ends with the discharge area. Only the significant hazards listed in clause 4 and dealt with in clause 5 are subject to this document. This document does not deal with hazards caused by processing harmful materials. This document is not applicable to machines which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geverniseerd

NEN-EN 12012-2:2007+A2:2008 en

€ 49.30

NEN-EN 12012-3:2001+A1:2008

Machines voor kunststoffen en rubber - Verkleiningsmachines - Deel 3: Veiligheidseisen voor versnipperaars

This document specifies the essential safety requirements applicable to the design and construction of blade granulators used to reduce objects and materials made from plastics and rubber into granules. The machine begins with the outer edge of the feed opening, or feeding device if it is an integral part of the machine, and ends with the discharge area. Only the significant hazards listed in clause 4 and dealt with in clause 5 are subject to this document. This document does not deal with hazards caused by processing harmful materials. This document is not applicable to machines which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12012-3:2001+A1:2008 en

€ 49.30

NEN-EN 12012-4:2006+A1:2008

Machines voor kunststoffen en rubber - Verkleiningsmachines - Deel 4: Veiligheidseisen voor agglomeratoren

This document specifies the essential safety requirements applicable to the design and construction of blade granulators used to reduce objects and materials made from plastics and rubber into granules. The machine begins with the outer edge of the feed opening, or feeding device if it is an integral part of the machine, and ends with the discharge area. Only the significant hazards listed in clause 4 and dealt with in clause 5 are subject to this document. This document does not deal with hazards caused by processing harmful materials. This document is not applicable to machines which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12012-4:2006+A1:2008 en

€ 49.30

NEN-EN 12012-4 Ontw.

Machines voor kunststoffen en rubber - Verkleiningsmachines - Deel 4: Veiligheidseisen voor agglomeratoren

This European Standard specifies the essential safety requirements applicable to the design and construction of agglomerators used to densify plastic scrap, reducing its size and/or volume. The limits of the agglomerator are as follows: - the outer edge of the feed opening, or the outer edge of the fixed feed device when it is an integral part of the machine or the interface between the agglomerator chamber and the feed system, when it is not an integral part of the machine and - the outer edge of the discharge opening of the agglomerator chamber or the integral discharge system or the interface between the agglomerator chamber and the discharge system, when it is not an integral part of the machine. When the feed or discharge device is covered by a specific type C standard (e.g. EN 1114-1 for extruder) this should be applied. Only the significant hazards listed in Annex A and dealt with in Clause 5 are subject to this European Standard. This European Standard does not deal with hazards caused by processing materials which, when heated, may lead to a risk of fire and release of toxic gases. This European Standard does not deal with hazards caused by upstream and/or downstream equipment. This document is not applicable to agglomerators manufactured before the date of its publication.

Type C

NEN-EN 12012-4:2017 Ontw. en

€ 23.50

NEN-EN 12301:2000+A1:2008

Machines voor kunststoffen en rubber - Kalanders - Veiligheidseisen

This European standard specifies safety requirements relating to the design and construction of multi-roll calenders intended for the processing of rubber or plastics. This standard concerns the calender alone including all components fixed to its frame. Annex A shows examples of various types of calenders and annex B shows examples of calendaring processes. The following machines are excluded: two-roll calenders forming an integral unit with an extruder (roller head); two or three-roll polishing, laminating or embossing units (which are not calenders) installed downstream of extruders in film processing lines. This standard deals with the significant hazards listed in clause 4. The following hazards are not dealt with: hazards generated by the materials being processed (see informative annex C); hazards generated by the processing of explosive materials, or materials which give rise to an explosive atmosphere; fire hazards due to ignition of flammable materials by contact with hot parts of the calender (e.g. in case of oil leakage); hazards due to electromagnetic, laser or ionising radiation; hazards generated if the calender is installed in an explosive atmosphere. This standard applies to machinery manufactured after the date of approval of this standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12301:2000+A1:2008 en

€ 74.30

NEN-EN 12301:2017

Machines voor kunststoffen en rubber - Kalanders - Veiligheidseisen

This draft European standard specifies safety requirements relating to the design and construction of calenders intended for the processing of rubber or plastics. This draft European standard concerns the calender alone, including all components fixed to its frame. Annex C shows examples of various types of calenders and Annex D shows examples of calendaring processes. This draft European standard deals with all significant hazards, hazardous situations or hazardous events relevant to the design and construction of calenders, when the machines are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex B). This draft European standard does not deal with: - hazards generated by the processing of explosive materials, or materials which give rise to an explosive atmosphere; - hazards due to laser or ionizing radiation; - hazards generated if the calender is installed in an explosive atmosphere. Two roll mills are covered by EN 1417. This draft European standard applies to machinery manufactured after its date of approval by CEN.

Type C

NEN-EN 12301:2016 Ontw. en

€ 41.00

NEN-EN 12409:2008+A1:2011**Machines voor kunststoffen en rubber - Warmvormmachines - Veiligheidseisen**

This European Standard deals with all significant hazards, hazardous situations and events relevant to thermoforming machines for continuous sheet and single sheets of thermoplastics materials, when they are used as intended and under conditions of misuse which are foreseeable by the manufacturer. A thermoforming machine may consist of a forming unit or a forming unit linked to one or more additional units. This standard covers the following units: - continuous sheet unwind unit; - single sheet feed unit; - material intake; - conveying equipment; - heating unit; - preheating unit; - edge heating unit; - component feeding/inserting unit; - forming station; - finishing station; - stacking station; - discharge station; - residual sheet winding unit; - sheet cutting unit. This European standard does not apply to units mounted upstream or downstream of the thermoforming machine: - which have a separate control system; and/or - are located separately.

Type C 2006/42/EG Geverifieerd

NEN-EN 12409:2008+A1:2011 en

€ 74.30

NEN-EN 13418:2013**Kunststof- en rubbermachines - Spoelmachines voor film of plaat - Veiligheidseisen**

This European Standard deals with all significant hazards, hazardous situations and events relevant to the design and construction of winding machines used for the winding and/or unwinding and/or rewinding and/or slitting of film or sheet manufactured from rubber, plastic and composite materials, when the machines are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). A machine used for winding or rewinding (winder or rewinder) begins at the intake of the film or sheet into the winding machine and ends at the discharge position of the reel(s). A machine used for unwinding (unwind) begins at the take-up position of the reel(s) and ends at the film or sheet take-off point. A machine used for unwinding, slitting and re-winding (slitter rewinder) begins at the take-up position of the reel(s) and ends at the discharge positions of the reel(s) and covers one or more integrated slitting/cutting units. In some machines the winding, unwinding, rewinding and slitting functions may be combined. Hazards due to electro-magnetic radiation, e.g. from the use of thickness monitoring devices, are not covered by this European Standard. Toxic or chemical hazards and hazards due to dusts, fumes or gases, which could occur from the materials being wound, unwound, slit or rewound are not covered by this European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13418:2013 en

€ 86.00

NEN-EN 14886:2008**Machines voor kunststoffen en rubber - Snijmachines voor schuimblokken - Veiligheidseisen**

This European standard applies to machines that are designed specifically to cut, split or peel block foams to commercially required shapes, using a single or double cut. All hazards listed in clause 4 are covered by this document. Cutting of block foams may be by: vertical cutting; horizontal cutting; inclined cutting; transverse cutting; contour cutting; or a combination of the above. The material to be cut may be supported or transported by: a fixed table; a shuttle table; a conveyor; a turntable; rollers; mandrel; or a combination of the above. Cutting can be either manual or automatic. Cutting tools can be: smooth-edged or toothed bandknives; cutting wires. Movement of the cutting tool can be either oscillating or continuous in one direction. This European Standard does not apply to: laser and water jet cutting; hot wire cutting; wood, metal and food cutting machines. The safety requirements for the additional hazards arising from the interaction between bandknife cutting machines and ancillary equipment, especially loading and unloading devices, are specified. The safety requirements for the ancillary equipment itself are not specified. This European Standard covers machines used for cutting plastics and rubber having a cellular or compact structure. However, it may also be applied when these machines are used for cutting other materials, for example textiles, fibres and mineral wool, if cutting these materials does not create additional hazards. This document is not applicable to bandknife cutting machines manufactured before the date of its publication as an EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 14886:2008 en

€ 98.50

NEN-EN 15067:2008**Machines voor kunststoffen en rubber - Veiligheidseisen voor folieverwerkingsmachines voor tassen en zakken - Veiligheidseisen**

This European Standard specifies the safety requirements applicable to the design and construction of film converting machines for making bags and sacks, for the significant and specific hazards listed in Clause 4. This type of machine is based on the welding process. A film converting machine for bags and sacks starts at the film unwinding unit or at the film inlet when this machine is directly fed by an upstream process and ends at the product collection or delivery unit. The bag making line may include: 1) unwind units; 2) slit-welding units; 3) gussetting units; 4) lane deviation units; 5) perforating and welding or cutting and welding units; 6) blocking units; 7) pick-up and transfer units; 8) stacking units; 9) punching units; 10) folding units; 11) winding units; 12) labelling or taping units; 13) handle and closure units; 14) draw tape insertion units; 15) generators of electrostatic charge; 16) electrostatic discharge equipment. Printing units, high frequency welding machines and the design and construction of electrostatic generators are not covered by this standard. Ultrasonic radiation hazards resulting from ultrasonic welding devices, e.g. integrated in handle and closure units, are not covered by this standard. Film converting machines for bags and sacks generally do not create explosive atmospheres. In principle they therefore correspond with line F of Table 2 of the ATEX Guideline and consequently do not fall within the scope of Directive 94/9/EC.

Type C 2006/42/EG Geverifieerd

NEN-EN 15067:2008 en

€ 61.30

NEN-EN 16474:2015**Kunststof- en rubberverwerkende machines - Vulcaniseerpersen - Veiligheidseisen**

NEN-EN 16474 applies to tyre curing machines having the following configuration. - crossing flow tyre curing machines, with two cavities with: - common curing cycle and common safeguarding; or - independent curing cycles and common safeguarding; or - independent curing cycles and independent safeguarding; - tyre curing machines with one cavity; - tyre curing machines with automatic rear feeding and discharge. The safety requirements and/or protective measures specified in this European Standard apply to tyre curing machines for passenger vehicle tyres and truck tyres. This European Standard does not deal with: - feeding system and discharge system; - tyre curing machines with manual loading of the green tyre into the mould and manual unloading of the cured tyre from the mould; - ancillary equipment which is not an integral part of the tyre curing machine, e.g. conveying equipment; - exhaust systems. This European Standard deals with all significant hazards, hazardous situations and events relevant to tyre curing machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 16474:2015 en

€ 98.50

Textielbewerkingsmachines**NEN-EN-ISO 8230-1:2008****Veiligheidseisen voor chemische reinigingsmachines - Deel 1: Algemene veiligheidseisen**

This part of ISO 8230 specifies common safety requirements for dry-cleaning machines. It is applicable to dry-cleaning machines of all sizes intended for industrial and commercial use for the cleaning of articles made of textile, leather, furs and skins, using exclusively either perchloroethylene or combustible solvent as the cleaning medium. It is not applicable to: - machines placed at the disposal of the general public (self-service); - barrier machines as defined in 3.1.5; - transfer machines as defined in 3.1.4; - ironing presses (see ISO 10472-1 and ISO 10472-6); - ancillary equipment, e.g. room ventilation equipment, waste recuperation systems of the still, external water cooling systems or external systems for solvent recovery from the still sludge. This part of ISO 8230 deals with all significant hazards arising from the use of the dry-cleaning machine, where "use of the dry-cleaning machine" comprises both intended use and foreseeable abnormal situations and includes commissioning, use and maintenance. It defines the common safety requirements for dry-cleaning machines and is intended to be used in conjunction with ISO 8230-2 and ISO 8230-3, as relevant. Specific requirements in those other parts of ISO 8230 take precedence over the respective requirements of this part of ISO 8230. It does not deal with hazards caused by processing items that can create an explosive atmosphere (e.g. printers' wipers containing a low-flash solvent), nor with machines processing loads that can contain "foreign solvents", which could lead to a change in a property (characteristic) of the cleaning solvent, e.g. cause foaming or make it carcinogenic. This part of ISO 8230 applies to machines manufactured after the date of its issue.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 8230-1:2008 en

€ 124.99

NEN-EN-ISO 8230-2:2008**Veiligheidseisen voor chemische reinigingsmachines - Deel 2: Machines die perchlooretheen toepassen**

This part of ISO 8230 specifies safety requirements for dry-cleaning machines that exclusively use perchloroethylene (herein after known as "perc") as their cleaning medium. It is applicable to such dry-cleaning machines, within the scope of ISO 8230-1, when they are used as intended and under conditions of misuse that are reasonably foreseeable by the manufacturer. It is not applicable to: - open-circuit dry-cleaning machines; - transfer machines. This part of ISO 8230, in conjunction with ISO 8230-1, deals with all significant hazards, significant hazardous situations and significant hazardous events that have been identified as being significant to the types of machines covered by this part of ISO 8230 and which require specific action by the designer or manufacturer to eliminate or reduce the risk. It deals with the following significant hazards specific to the use of perc, which can lead to the inhalation of unhealthy vapours, to perc contact with the skin (including of the feet) or eyes of the machine operator and those of other personnel and members of the public, as well as to water and ground contamination: a) perc emission to the workroom, seepage into the ground and sewer during operation and maintenance of the water separator; b) percremission resulting from operation, cleaning and maintenance of the distilling installation. This part of ISO 8230 applies to machines manufactured after the date of its issue.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 8230-2:2008 en

€ 34.42

NEN-EN-ISO 8230-3:2008**Veiligheidseisen voor chemische reinigingsmachines - Deel 3: Machines gebruikt voor brandbare oplosmiddelen**

This part of ISO 8230 specifies safety requirements for dry-cleaning machines that use a combustible solvent (CS), as defined in ISO 8230-1, as their cleaning medium. It is applicable to such dry-cleaning machines, within the scope of ISO 8230-1, when they are used as intended and under conditions of misuse that are reasonably foreseeable by the manufacturer. This part of ISO 8230, in conjunction with ISO 8230-1, deals with all significant hazards, significant hazardous situations and significant hazardous events that have been identified as being significant to the types of machines covered by this part of ISO 8230 and which require specific action by the designer or manufacturer to eliminate or reduce the risk. It deals with the following significant hazards specific to the use of CS: - hazards related to the entire dry-cleaning machine (electrical hazards, explosion hazards); - hazards relating to the machine (combustible solvent emission, explosion hazards during the cleaning phase, explosion hazards during the drying phase); - hazards relating to the distilling equipment (combustible solvent emission, explosion hazards). This part of ISO 8230 applies to machines manufactured after the date of its issue.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 8230-3:2008 en

€ 52.53

NEN-EN-ISO 9902-1:2001

Textielmachines - Bepaling van geluidsemissie - Deel 1: Algemene eisen

Specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration and verification of the basic noise emission quantities of groups of textile machinery. It specifies noise measurement methods, mounting and operation conditions that shall be used for the test.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-1:2001 en

€ 48.19

NEN-EN-ISO 9902-1:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 1: Algemene eisen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-1:2001/A1:2009 en

€ 14.49

NEN-EN-ISO 9902-1:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 1: Algemene eisen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-1:2001/A2:2014 en

€ 14.49

NEN-EN-ISO 9902-2:2001

Textielmachines - Bepaling van geluidsemissie - Deel 2: Machines voor de voorbereiding van spinnen en spinmachines

Specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by different types of spinning preparatory and spinning machines. It is applicable to engineering methods (grade 2) and survey methods (grade 3) defined in the standards referred to.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-2:2001 en

€ 73.12

NEN-EN-ISO 9902-2:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 2: Machines voor de voorbereiding van spinnen en spinmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-2:2001/A1:2009 en

€ 14.49

NEN-EN-ISO 9902-2:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 2: Machines voor de voorbereiding van spinnen en spinmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-2:2001/A2:2014 en

€ 14.49

NEN-EN-ISO 9902-3:2001

Textielmachines - Bepaling van geluidsemissie - Deel 3: Machines voor niet-gewevede stoffen

Specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by the different types of nonwoven machines. It is applicable to engineering methods (grade 2) and survey methods (grade 3) defined in the standards referred to.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-3:2001 en

€ 48.19

NEN-EN-ISO 9902-3:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 3: Machines voor niet-gewevede stoffen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-3:2001/A1:2009 en

€ 14.49

NEN-EN-ISO 9902-3:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 3: Machines voor niet-gewevede stoffen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-3:2001/A2:2014 en

€ 14.49

NEN-EN-ISO 9902-4:2001

Textielmachines - Bepaling van geluidsemissie - Deel 4: Machines voor vezelverwerking, takelwerk en touwproductie

Specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by different types of yarn processing, cordage and rope manufacturing machines. It is applicable to engineering methods (grade 2) and survey methods (grade 3) defined in the standards referred to.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-4:2001 en € 48.19

NEN-EN-ISO 9902-4:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 4: Machines voor vezelverwerking, takelwerk en touwproductie

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-4:2001/A1:2009 en € 14.49

NEN-EN-ISO 9902-4:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 4: Machines voor vezelverwerking, takelwerk en touwproductie

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-4:2001/A2:2014 en € 14.49

NEN-EN-ISO 9902-5:2001

Textielmachines - Bepaling van geluidsemissie - Deel 5: Machines voor de voorbereiding op weven en breien

Specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by the different types of preparatory machines to weaving and knitting. It is applicable to engineering methods (grade 2) and survey methods (grade 3) defined in the standards referred to.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-5:2001 en € 31.57

NEN-EN-ISO 9902-5:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 5: Machines voor de voorbereiding op weven en breien

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-5:2001/A1:2009 en € 14.49

NEN-EN-ISO 9902-5:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 5: Machines voor de voorbereiding op weven en breien

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-5:2001/A2:2014 en € 14.49

NEN-EN-ISO 9902-6:2001

Textielmachines - Bepaling van geluidsemissie - Deel 6: Machines voor de vervaardiging van weefsel

Specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by the different types of fabric manufacturing machines. It is applicable to engineering methods (grade 2) and survey methods (grade 3) defined in the standards referred to.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-6:2001 en € 73.12

NEN-EN-ISO 9902-6:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 6: Machines voor de vervaardiging van weefsel

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-6:2001/A1:2009 en € 14.49

NEN-EN-ISO 9902-6:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 6: Machines voor de vervaardiging van weefsels

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 9902-6:2001/A2:2014 en € 14.49

NEN-EN-ISO 9902-7:2001

Textielmachines - Bepaling van geluidsemissie - Deel 7: Machines voor het verven en afwerken

Specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by different types of dyeing and finishing machines. It is applicable to engineering methods (grade 2) and survey methods (grade 3) defined in the standards referred to.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 9902-7:2001 en

€ 73.12

NEN-EN-ISO 9902-7:2001/A1:2009

Textielmachines - Geluidbeproevingscode - Deel 7: Machines voor het verven en afwerken

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 9902-7:2001/A1:2009 en

€ 14.49

NEN-EN-ISO 9902-7:2001/A2:2014

Textielmachines - Geluidbeproevingscode - Deel 7: Machines voor het verven en afwerken

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 9902-7:2001/A2:2014 en

€ 14.49

NEN-EN-ISO 10472-1:2008

Veiligheidseisen voor industriële wasmachines - Deel 1: Algemene eisen

Identify all significant hazards associated with laundry machinery designed for use in industrial laundry premises, which includes hotels, hospitals, nursing homes, prisons and similar premises, as well as machines designed for use in self-service establishments subject to the minimum capacities stated in the separate parts of ISO 10472. Dry-cleaning presses and garment presses are also included.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10472-1:2008 en

€ 106.87

NEN-EN-ISO 10472-2:2008

Veiligheidseisen voor industriële wasmachines - Deel 2: Wasmachines en wascentrifuges

Covers together with ISO 10472-1, most significant hazards associated with washing machines and washer-extractors of all configurations having a net usable cage volume > 60 l. This part does not cover particular hazards for drawer-type washer extractors. This part does not cover the hazards caused by processing work which may create an explosive or flammable atmosphere inside the machine. This part complements the basic requirements as laid down in ISO/TR 12100-1 and ISO/TR 12100-2. It also gives guidance to the designer on assessing the risks associated with the hazards (see EN 1050) and on selecting measures for attaining the required safety level.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10472-2:2008 en

€ 79.70

NEN-EN-ISO 10472-3:2008

Veiligheidseisen voor industriële wasmachines - Deel 3: Wastunnellijnen inclusief de samenstellende machines

Covers, together with ISO 10472-1, most significant hazards associated with washing tunnel lines including component machines such as: - continuous tunnel washing machines; - squeeze presses or centrifugal extraction machines; - transfer conveyor systems; - automatic transfer tumblers; - loading or unloading system interfaces; - access platform and ladders.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10472-3:2008 en

€ 52.53

NEN-EN-ISO 10472-4:2008

Veiligheidseisen voor industriële wasmachines - Deel 4: Luchtdrogers

Covers, together with ISO 10472-1, most significant hazards associated with air dryers, and in particular with tumble dryers having a net usable cage volume > 160 l and tunnel finishers including associated conveyors and cabinet dryers. This part of the standard complements the basic requirements as laid down in ISO/TR 12100-1 and ISO/TR 1210-2. It also gives guidance to the designer on assessing the risks associated with the hazards (see EN 1050) and on selecting measures for attaining the required safety level. This part of the standard does not apply to ancillary equipment.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10472-4:2008 en

€ 52.53

NEN-EN-ISO 10472-5:2008

Veiligheidseisen voor industriële wasmachines - Deel 5: Strijkijzers voor vlak werk, voeders en opvouwmachines

Covers, together with ISO 10472-1, most significant hazards associated with flatwork ironers, feeders and folders, such as:; cylinder and bed ironers for flatwork finishing having a contact area (for bed ironers under pressure) > 0,25 m²; - flatwork feeding machines for the automatic feeding of flatwork into bed or cylinder ironers, or directly to folders; - flatwork folding machines for the automatic folding of flatwork in association with cylinder and bed ironers; - folders; - flatwork folding machines for the automatic folding of flatwork in association with cylinder and bed ironers; - folding machines for the automatic folding of small pieces (excluding endless towels); - multi-function machines. This part of the standard complements the basic requirements as laid down in ISO/TR 12100-1 and ISO/TR 12100-2. It also gives guidance to the designer on assessing the risks associated with the hazards (see EN 1050) and on selecting measures for attaining the required safety level.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10472-5:2008 en

€ 106.87

NEN-EN-ISO 10472-6:2008

Veiligheidseisen voor industriële wasmachines - Deel 6: Strijk- en persmachines

This part of ISO 10472 covers, together with ISO 10472-1, most significant hazards associated with ironing and fusing presses used in the laundry, garment and dry-cleaning industry, and in particular: - scissor presses; - cabinet presses; - drawer presses; - rotary presses (carousel) and other presses with multiple buckets. This part of ISO 10472 complements the basic requirements as laid down in ISO/TR 12100-1 and ISO/TR 12100-2. It also gives guidance to the designer on assessing the risks associated with the hazards (see EN 1050) and on selecting measures for attaining the required safety level. This part of ISO 10472 does not apply to ancillary equipment, e.g. steam boilers, steam valves and supply pipe work, vent systems, work feed systems and discharge systems, and ducting to the atmosphere.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 10472-6:2008 en

€ 52.53

NEN-EN-ISO 11111-1:2016-10

Textielmachines - Veiligheidseisen - Deel 1: Algemene eisen

NEN-EN-ISO 11111-1 specifies safety requirements for frequently occurring hazards common to the types of textile machinery and the hazards of certain machine elements covered by ISO 11111-2 to ISO 11111-7. The standard series is complemented by the type C standards ISO 9902 (all parts) with respect to noise emission measurement and ISO 23771 with respect to measures for the reduction of noise emissions. This part of ISO 11111 is applicable to machinery plant and related equipment intended to be used in the textile industry for the following purposes: - opening, cleaning, blending, carding, preparation subsequent to carding, spinning and other processing of fibres (staple and filament) and other materials to form yarn or nonwoven material (including felts); - winding, doubling, twisting, texturing, etc., of yarns and the processing of yarns preparatory to weaving and knitting; - weaving, knitting, lace-making and similar utilization of yarn, etc., to form fabric; - forming of braid, cord, strand, rope, twine, net, etc., except take-up reels of stranding and laying machinery; - processing, including the pretreatment, bleaching, dyeing, printing and finishing of fibre, yarn, fabric, braid, cord, etc., and final assembly for dispatch; - piece-dyeing of made-up goods; - finishing of warp and weft knitting, including hosiery, other than assembly of the finished product (e.g. sewing); - manufacturing of carpets by weaving, tufting and other processes. This part of ISO 11111 applies to all machinery, plant and equipment used during the processes listed above, including equipment to enable automated operation of the machines and processes in either free-standing or complex installations, such as pneumatic fibre transportation, but excluding other transportation between the interfaces of the machines. ISO 11111 (all parts) addresses hazards arising from the transport, assembly and commissioning of the machinery, its adjustment, use, maintenance, decommissioning, dismantling and disposal. Manual loading/unloading is considered to be part of the normal operation of the machinery. This part of ISO 11111 and the other parts of ISO 11111 are not applicable to machinery, plant and related equipment used for - manufacturing continuous filaments and man-made fibres up to and including the formation of the first textile package (e.g. continuous filament cheese, staple fibre bale), - hacking and carding of flax and similar, - manufacturing of spun-bonded and melt-blown nonwovens, - forming and making up of garments, household and industrial textile goods, and the pressing and die cutting of nonwoven fabric, - laundering and dry cleaning of made-up textile goods, - servicing of textile machines (e.g. machines for card wire mounting, cleaning machines for components of printing machines), and - certain cutting devices, e.g. log-slitting device, laser cutting, high pressure water jets, ultrasonic device. This part of ISO 11111 and the other parts of ISO 11111 are not applicable to machinery intended for use in potentially explosive atmospheres. This part of ISO 11111 and the other parts of ISO 11111 are not applicable to machines which are manufactured before the dates of publication of the International Standards.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11111-1:2016-10 en

€ 161.21

NEN-EN-ISO 11111-2:2005

Textielmachines - Veiligheidseisen - Deel 2: Machines voor de voorbereiding van spinnen en spinmachines

This part of ISO 11111 is intended to be used in conjunction with ISO 11111-1. It specifies significant hazards and corresponding safety requirements and/or measures for spinning preparatory and spinning machinery. By taking into account the scope of ISO 11111-1 as far as is relevant, this part of ISO 11111 is applicable to all machinery, plant and related equipment intended to be used for opening, cleaning, blending, wool scouring, baling, carding, tow cutting and stretch breaking spinning, preparation subsequent to carding and spinning, as specified in Clause 5.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11111-2:2005 en

€ 98.05

NEN-EN-ISO 11111-2:2005/A1:2009

Textielmachines - Veiligheidseisen - Deel 2: Machines voor de voorbereiding van spinnen en spinmachines

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11111-2:2005/A1:2009 en

€ 14.49

NEN-EN-ISO 11111-2:2005/A2:2016

Textielmachines - Veiligheidseisen - Deel 2: Machines voor de voorbereiding van spinnen en spinmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-2:2005/A2:2016 en

€ 14.49

NEN-EN-ISO 11111-3:2005

Textielmachines - Veiligheidseisen - Deel 3: Machines voor de vervaardiging van niet-geweaven stoffen

This part of ISO 11111 is intended to be used in conjunction with ISO 11111-1, ISO 11111-2, ISO 11111-6 and ISO 11111-7. It specifies significant hazards and corresponding safety requirements and/or measures for nonwoven machinery. By taking into account the scope of ISO 11111-1 as far as is relevant, this part of ISO 11111 is applicable to all machinery, plant and related equipment intended to be used for opening, cleaning, blending, carding, needle punching, cylinder drying and batching, as specified in Clause 5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-3:2005 en

€ 31.57

NEN-EN-ISO 11111-3:2005/A1:2009

Textielmachines - Veiligheidseisen - Deel 3: Machines voor niet-geweaven stoffen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-3:2005/A1:2009 en

€ 14.49

NEN-EN-ISO 11111-3:2005/A2:2016

Textielmachines - Veiligheidseisen - Deel 3: Machines voor de vervaardiging van niet-geweaven stoffen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-3:2005/A2:2016 en

€ 14.49

NEN-EN-ISO 11111-4:2005

Textielmachines - Veiligheidseisen - Deel 4: Machines voor de bewerking van garen, touwen en koorden

This part of ISO 11111 is intended to be used in conjunction with ISO 11111-1. It specifies significant hazards and corresponding safety requirements and/or measures for yarn processing, cordage and rope manufacturing machinery. By taking into account the scope of ISO 11111-1 as far as is relevant, this part of ISO 11111 is applicable to all machinery, plant and related equipment intended to be used for doubling, twisting, texturing, reeling, winding, ball winding, cordage, rope manufacturing and braiding, as specified in Clause 5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-4:2005 en

€ 73.12

NEN-EN-ISO 11111-4:2005/A1:2009

Textielmachines - Veiligheidseisen - Deel 4: Machines voor de bewerking van garen, touwen en koorden

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-4:2005/A1:2009 en

€ 14.49

NEN-EN-ISO 11111-4:2005/A2:2016

Textielmachines - Veiligheidseisen - Deel 4: Machines voor de bewerking van garen, touwen en koorden

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-4:2005/A2:2016 en

€ 14.49

NEN-EN-ISO 11111-5:2005

Textielmachines - Veiligheidseisen - Deel 5: Voorbereidingsmachines voor weven en breien

This part of ISO 11111 is intended to be used in conjunction with ISO 11111-1. It specifies significant hazards and corresponding safety requirements and/or measures for preparatory machinery to weaving and knitting. By taking into account the scope of ISO 11111-1 as far as is relevant, this part of ISO 11111 is applicable to all machinery, plant and related equipment intended to be used for warping, beaming, sizing, size preparation and storage of warp beams, as specified in Clause 5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-5:2005 en

€ 48.19

NEN-EN-ISO 11111-5:2005/A1:2009

Textielmachines - Veiligheidseisen - Deel 5: Voorbereidingsmachines voor weven en breien

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-5:2005/A1:2009 en

€ 14.49

NEN-EN-ISO 11111-5:2005/A2:2016

Textielmachines - Veiligheidseisen - Deel 5: Voorbereidingsmachines voor weven en breien

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-5:2005/A2:2016 en

€ 14.49

NEN-EN-ISO 11111-6:2005

Textielmachines - Veiligheidseisen - Deel 6: Machines voor de vervaardiging van weefsel

This part of ISO 11111 is intended to be used in conjunction with ISO 11111-1. It specifies significant hazards and corresponding safety requirements and/or measures for fabric manufacturing machinery. By taking into account the scope of ISO 11111-1 as far as is relevant, this part of ISO 11111 is applicable to all machinery, plant and related equipment intended to be used for weaving, knitting and tufting, as specified in Clause 5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-6:2005 en

€ 98.05

NEN-EN-ISO 11111-6:2005/A1:2009

Textielmachines - Veiligheidseisen - Deel 6: Machines voor de vervaardiging van weefsel

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-6:2005/A1:2009 en

€ 14.49

NEN-EN-ISO 11111-6:2005/A2:2016

Textielmachines - Veiligheidseisen - Deel 6: Machines voor de vervaardiging van weefsel

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-6:2005/A2:2016 en

€ 14.49

NEN-EN-ISO 11111-7:2005

Textielmachines - Veiligheidseisen - Deel 7: Verf- en afwerkingsmachines

This part of ISO 11111 is intended to be used in conjunction with ISO 11111-1. It specifies significant hazards and corresponding safety requirements and/or measures for dyeing and finishing machinery. By taking into account the scope of ISO 11111-1 as far as is relevant, this part of ISO 11111 is applicable to all machinery, plant and related equipment intended to be used in preparation, dyeing, printing, fixation, wetting, drying, finishing and making-up/presentation, as specified in Clause 5.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-7:2005 en

€ 114.67

NEN-EN-ISO 11111-7:2005/A1:2009

Textielmachines - Veiligheidseisen - Deel 7: Verf- en afwerkingsmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-7:2005/A1:2009 en

€ 14.49

NEN-EN-ISO 11111-7:2005/A2:2016

Textielmachines - Veiligheidseisen - Deel 7: Verf- en afwerkingsmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11111-7:2005/A2:2016 en

€ 14.49

NEN-EN-ISO 23771:2015

Textielmachines - Ontwerpafmetingen voor het verminderen van lawaai van textielmachines

NEN-EN-ISO 23771 provides technical information on the design of textile machinery with reduced noise emissions. Textile machines with a significant noise hazard are defined in ISO 11111 (all parts). This International Standard supports the technical designer with the development of low-noise textile machinery. For this purpose, the significant sources of noise of the individual types of textile machines and suitable noise control measures are described. Elements needed for the operation of the textile machine, which are, however, not part of the textile machine, are not covered by this International Standard (e.g. elements for transportation of process material, elements for provision of media).

Type C

NEN-EN-ISO 23771:2015 en

€ 124.99

Toegangssystemen

NEN-EN 12453:2017

Industriële, bedrijfs- en garagedeuren en hekken - Gebruiksveiligheid van aangedreven deuren - Eisen en beproefingsmethoden

NEN-EN 12453 specifies requirements and test methods for the safety in use of power operated doors, gates and barriers, intended for installation in areas in the reach of persons, and for which the main intended use is giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises. This European Standard also covers power operated vertically moving commercial doors such as rolling shutters and rolling grilles, used in retail premises which are mainly provided for goods protection. This European Standard deals with all significant hazards, hazardous situations and events relevant to the power operation of industrial, commercial and garage doors, and gates when they are used as intended and under conditions of misuse which are reasonably foreseeable as identified in Clause 4. All lifetime phases of the machinery including transportation, assembly, dismantling, disabling and scrapping are considered by this standard. This European Standard does not apply to: - lock gates and dock gates; - doors on lifts; - doors on vehicles; - armoured doors; - doors mainly for the retention of animals, unless they are at the site perimeter ; - theatre textile curtains; - horizontally moving power operated doors mainly intended for pedestrian use; - doors outside the reach of people (such as crane gantry fences); - railway barriers; - barriers intended solely for use by pedestrians; - barriers used solely for vehicles on motorways. Whenever the term "door" is used in this document, it shall be deemed to cover the full scope of types and variances of doors, gates and barriers in the scope of this Standard. This European Standard does not deal with any specific requirements on noise emitted from power operated door, gate and barrier, intended for installation in areas in the reach of persons, and for which the main intended use is giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises as their noise emission is not considered to be a relevant hazard.

Type C

NEN-EN 12453:2017 en

€ 86.00

NEN-EN 12635:2002+A1:2008

Industriële, bedrijfs- en garagedeuren en hekken - Installatie en gebruik

This European Standard specifies the information to be provided by the door manufacturer and the components manufacturer to ensure safe installation, operation, use (including maintenance and repair) of doors, gates and barriers intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises. This European Standard also covers commercial doors such as rolling shutters and rolling grilles used in retail premises which are mainly provided for the access of persons rather than vehicles or goods. This European Standard applies to manually operated and power operated doors, to doors and components intended to be installed by "non professional installers" and may also apply to the installation and use of upgrading component(s). The European Standard only applies to the doors and components manufactured after the date of publication. This European Standard does not apply to doors that are intended for a different use than the one described in 1.1 such as: - lock gates and dock gates; - doors on lifts; - doors on vehicles; - doors mainly for the retention of animals; - theatre textile curtains; - railway barriers; - barriers used solely for vehicles. This European Standard does not apply to machinery other than power operated doors. This European Standard does not cover operation in environments where the electromagnetic disturbances are outside the range of those specified in EN 61000-6-2 or for domestic garage doors those specified in EN 55014-2. This European Standard does not cover: - products to be used in potential explosive atmosphere or on armoured doors; - programmable devices (see IEC 61508 series); - shock resistance of component (example IK code). These exclusions are based on technology used at the publication time of this standard. When a door is part of the load carrying structure of the building, the load carrying function is not dealt with in this European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 12635:2002+A1:2008 en

€ 49.30

NEN-EN 12635:2017

Industriële, bedrijfs- en garagedeuren en hekken - Installatie en gebruik

This European Standard specifies the information to be provided ensuring safe use, including installation, maintenance and repair and dismantling as provided by the manufacturer of manual and power operated industrial, commercial and garage doors and gates and barriers intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.

Type C

NEN-EN 12635:2015 Ontw. en

€ 23.50

NEN-EN 12978 Ontw.

Industrie-, bedrijfs- en garagedeuren en poorten - Veiligheidsvoorzieningen voor automatisch werkende deuren en hekken - Eisen en beproefingsmethoden

This European Standard specifies requirements and test methods for sensitive protective equipment to be used with power operated industrial/commercial/garage doors, gates and barriers covered by EN 12453 and power operated pedestrian doors covered by EN 16005. Whenever the term „door“ is used in this document, it need to be deemed to cover the full scope of types and variances of doors, gates and barriers defined by the scope of EN 12453 and EN 16005. This standard does not deal with sensitive protective equipment using ultrasonic, radar, capacitive, inductive or active infrared technologies. This standard does not apply to inherent sensitive protective equipment.

Type C

NEN-EN 12978:2017 Ontw. en

€ 29.20

NEN-EN 12978:2003+A1:2009

Industrie-, bedrijfs- en garagedeuren en poorten - Veiligheidsvoorzieningen voor automatisch werkende deuren en hekken - Eisen en beproefingsmethoden

This European Standard applies for design, construction and testing of sensitive protective devices where the device is used to detect pedestrians including in particular applications, slow moving elderly persons, slow moving disabled persons and children who may be exposed to injury by power operated doors, gates and barriers, electrically powered from a public supply and intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial, public or residential premises. This standard also covers safety devices for commercial doors such as rolling shutters and rolling grilles when used as doors on retail premises which are mainly provided for the access of persons rather than vehicles or goods. ! Noise is generally not a relevant hazard for this type of machinery." This standard deals with all significant hazards listed in annex A and specifies requirements to eliminate or minimise them. This standard covers the requirements for electrical powered safety devices using mains supply provided for installation on or used in conjunction with powered doors in order to avoid hazardous situations which can be encountered when a door is used normally. The sensitive protective device is designed to give a change in the output signal switching device which may be used to provide protection for the person being at risk. It applies to ready to use sensitive protective device and integrated sensitive protective device (mounted on or connected to a power operated door in normal use). This standard only applies to door safety devices manufactured after the date of publication.

Type C 2006/42/EG Geverifieerd

NEN-EN 12978:2003+A1:2009 en

€ 61.30

NEN-EN 13120:2009+A1:2014

Aan de binnenzijde geplaatste zonwering - Prestatie-eisen inclusief veiligheid

NEN-EN 13120 + A1 specifies the requirements which internal blinds shall fulfil when fitted to a building. It deals also with the significant machinery hazards relating to construction, transport, installation, operation and maintenance of internal blinds (see list of significant hazards in Annex B). It applies to internal blinds, whatever their design and the nature of the materials used, as listed below: - venetian blind: free hanging, guided, non-retractable; - roller blind: free hanging, side guided, with tensioned fabric; - vertical blind: free hanging, with top and bottom track, sloping headrail; - pleated and honeycomb blind: free hanging, guided, laterally moving, tensioned; - Roman Shades; - Austrian / Festoon blinds; - panel blinds; - plantation shutters; - roll-up blinds. These products may be operated manually, with or without compensating springs, or by means of electric motors (power operated products). This standard does not apply to draperies and insect screens. It does not apply to blinds in sealed glazed units with the exception of requirements related to protection from strangulation. Noise aspects are not treated in this standard because this is not considered a safety issue. This standard is not applicable to internal blinds which are manufactured before the date of publication of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13120:2009+A1:2014 en

€ 74.30

NEN-EN 13241:2016

Industriële en commerciële garagedeuren en -poorten - Productnorm, prestatiekenmerken

NEN-EN 14341+A2 specifies the safety and performance requirements, except resistance to fire and smoke control characteristics, for industrial, commercial, garage doors and gates and barriers, intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises. Fire resisting and/or smoke control characteristics for industrial, commercial, garage doors and gates are covered by EN 16034. This European Standard also covers commercial doors such as rolling shutters and rolling grilles used in retail premises which are mainly provided for the access of persons rather than vehicles or goods. These doors can include pass doors incorporated in the door leaf which are also covered by this European Standard. These devices can be manually or power operated. This European Standard does not cover operation in environments where the electromagnetic disturbances are outside the range of those specified in EN 61000-6-3.

Type C 2006/42/EG Geverifieerd

NEN-EN 13241:2016 en

€ 61.30

NEN-EN 13561:2015

Zonneschermen - Prestatie-eisen inclusief veiligheid

NEN-EN 13561 specifies the performance requirements for blinds and awnings intended to be fitted externally to buildings and other construction works. It deals also with the significant hazards for assembly, transport, installation, operation and maintenance (see list of significant machine hazards in Annex B). It applies to all external blinds and awnings whatever their design and nature of the materials used, as follows and defined in EN 12216: ? folding arm awning, trellis arm awning, pivot arm awning, slide arm awning, vertical roller blind, marquisette, façade awning, skylight awning, conservatory awning, Pergola awning, Dutch awning, insect screen; brise-soleil. This European Standard does not cover the wind resistance of non-retractable products, e.g. Dutch awnings and brise-soleil. The structural part to which the Pergola awning is fixed is not covered. The products covered by this European Standard may be operated manually, with or without compensating springs or by means of electric motors (power operated products). However, the durability and endurance of the autonomous supply for power operated external blinds and awnings not connected to the mains supply are not covered. This European Standard deals also with all significant hazards, hazardous situations and events when external blinds and awnings are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex B). This European Standard covers external blinds and awnings mounted externally. In case such products are installed internally, they should fulfil all relevant safety requirements defined in EN 13120. The noise emission of power operated external blinds and awnings is not considered to be a relevant hazard according to the machinery health and safety requirements. Therefore this European Standard does not contain any specific requirements on noise health and safety objective.

Type C 2006/42/EG Geverifieerd

NEN-EN 13561:2015 en

€ 86.00

NEN-EN 13659:2015**Luiken - Prestatie-eisen inclusief veiligheid**

NEN-EN 13659 specifies the performance requirements for shutters and external venetian blinds intended to be fitted externally to buildings and other construction works. It deals also with the significant hazards for assembly, transport, installation, operation and maintenance (see list of significant machine hazards in Annex C). It applies to all shutters and external venetian blinds whatever their use and nature of the materials used, as follows and defined in EN 12216: - external venetian blind, roller shutter, wing shutter, Venetian shutter, flat-closing concertina shutter, concertina shutter or sliding panel shutter, with or without a system of projection. These products can be operated manually with or without compensating spring, or by means of electric motors (power operated products). However, the durability and endurance of the autonomous supply for power operated shutters and external venetian blinds not connected to the mains supply are not covered. This European Standard deals also with all significant hazards, hazardous situations and events when shutters and external venetian blinds are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex D). This European Standard covers shutters and external venetian blinds mounted externally. In case such products are installed internally, they should fulfil all relevant safety requirements defined in EN 13120. The noise emission of power operated shutters and external venetian blinds is not considered to be a relevant hazard health and safety requirements. Therefore this European Standard does not contain any specific requirements on noise health and safety objective.

Type C 2006/42/EG Geverifieerd

NEN-EN 13659:2015 en

€ 98.50

NEN-EN 14351-2 Ontw.**Ramen en deuren - Productnorm, prestatie-eigenschappen - Deel 2: Binnendeuren zonder brand- en/of rookwerende eigenschappen**

This European Standard identifies material independent performance characteristics that are applicable to internal pedestrian doorsets without resistance to fire and/or smoke leakage characteristics. This document applies to doorsets intended to be used internally for construction works: in escape routes not subject to fire and/or smoke leakage; for specific uses with specific requirements; for communication only. NOTE 1

Type C

NEN-EN 14351-2:2014 2e Ontw. en

€ 41.00

NEN-EN 16005:2012**Automatische deuren voor voetgangers - Gebruiksveiligheid - Eisen en beproevingsmethoden**

This European Standard specifies requirements regarding design and test methods for external and internal power operated pedestrian doorsets. Such doorset constructions may be operated electro-mechanically, electro-hydraulically or pneumatically. This European Standard covers safety in use of power operated pedestrian doorsets used for normal access as well as in escape routes and as fire resistance and/or smoke control doorsets. The type of doorsets covered include power operated pedestrian sliding, swing and revolving doorsets, including balanced doorsets and folding doorsets with a horizontally moving leaf. Power operated pass doorsets incorporated in other doorsets for which the main intended use is giving safe access for persons are covered by the scope of this European Standard. This European Standard deals with all significant hazards, hazardous situations and events relevant to power operated doorsets when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C 2006/42/EG Geverifieerd

NEN-EN 16005:2012 en

€ 86.00

NEN-EN 16005:2012/C1:2015**Automatische deuren voor voetgangers - Gebruiksveiligheid - Eisen en beproevingsmethoden**

Type C

NEN-EN 16005:2012/C1:2015 en

€ 0.00

Transporteurs**NEN-EN 617:2001+A1:2010****Transporteurs - Veiligheids- en EMC-eisen voor installaties voor opslag van stortgoed in silo's, bunkers, voorraadbakken en trechters**

This European Standard deals with the technical requirements to minimise the hazards listed in clause 4 and annex A. These hazards can arise during the operation and maintenance of equipment to store bulk materials in silos, bunkers, bins and hoppers and their built-in inlet and outlet devices when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This standard deals with safety related technical verification during commissioning.

Type C 2006/42/EG Geverifieerd

NEN-EN 617:2001+A1:2010 en

€ 74.30

NEN-EN 618:2002+A1:2010**Transporteurs - Veiligheids- en EMC-eisen voor stortgoedtransporteurs met uitzondering van vast opgestelde bandtransporteurs**

This standard deals with the technical requirements to minimise the risks due to the hazards listed in clause 4, which can arise during operation and maintenance of mechanical handling equipment defined in clauses 3.1 to 3.3 and which are designed for continuously conveying bulk materials from the loading point(s) to the unloading point(s). In general, it also applies to equipment which are built into machines or attached to machines. This standard deals with the technical requirements for EMC. The standard does not apply to: continuous handling equipment and systems for open-cast lignite mining; continuous handling equipment and systems for underground mining; tunnel digging and excavating machines; bulk material processing or classification machines such as grinders, crushers, screens; fixed belt conveyors for bulk materials. These are covered by the standard EN 620:2002+A1:2010"; fixed pneumatic handling equipment. These equipment and systems are covered by the standard EN 741; the interface between the machinery dealt with in this standard and the fixed belt or pneumatic conveyor. This standard does not give the additional requirements for: a) use in public areas or for the transportation of people; b) floating, dredging and ship mounted equipment; c) conveyors requiring a high level of cleanliness for hygiene reasons, e.g. in direct contact with foodstuffs or pharmaceuticals; d) transportation of the equipment; e) hazards caused by vibration; f) use in ambient air temperature below - 20 °C and above + 40 °C; g) the effects of wind on strength and stability; h) hazards resulting from handling specific hazardous materials, (e.g. Explosives, radiating material); i) hazards resulting from contact with or inhalation of harmful fluids, gas, mists, fumes and dusts; j) biological and micro-biological (viral or bacterial) hazards; k) hazards due to heat radiation from the materials handled; l) hazards caused by operation in electromagnetic fields outside the range of EN 61000-6-2; m) hazards caused by operation subject to special regulations (e.g. explosive atmospheres); n) hazards caused by noise; o) hazards caused by the use of ionising radiation sources (e.g. measurement equipment); EN 618:2002+A1:2010 (E) 6 p) hazards caused by hydraulic equipment; q) hazards caused by inadequate controls cabins lighting; r) the risk related to elevating of the control stations; s) hazards related to contact with or inhalation of harmful fluids, gases, mists, fums and dusts. The safety requirements apply to equipment and systems placed on the market after the date of publication of this standard.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 618:2002+A1:2010 en

€ 86.00

NEN-EN 619:2002+A1:2010**Transporteurs - Veiligheids- en EMC-eisen voor stukgoedtransporteurs van transporteenheden**

This European standard deals with the technical requirements to minimise the hazards listed in Clause 4 and Annex B. These hazards can arise during the operation and maintenance of continuous handling equipment and systems when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This standard deals with safety related technical verification during commissioning. This standard applies to mechanical handling devices defined in Clause 3, singly or combined to form a conveyor system, and designed exclusively for moving unit loads continuously on a predefined route from the loading to the unloading points, possibly with varying speed or cyclically. In general, it also applies to conveyors which are built into machines or attached to machines. Safety requirements and/or measures in this standard apply to equipment used in all environments. However, additional risk assessments and safety measures need to be considered for uses in severe conditions, e.g. freezer applications, high temperatures, corrosive environments, strong magnetic fields, potentially explosive atmospheres, radioactive conditions and loads the nature of which could lead to a dangerous situation (e.g. molten metal, acids/bases, specially brittle loads, explosives) operation on ships and earthquake effects and also contact with foodstuff. Hazards during decommissioning are not covered. This European Standard deals with the technical requirements for electromagnetic compatibility (EMC). This standard does not cover hazards during decommissioning and hazards generated by noise. It also does not cover operation in environments where the electromagnetic disturbances are outside the range of those specified in EN 61000-6-2. This standard does not apply to conveying equipment and systems used underground or in public areas and to aircraft ground support equipment.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 619:2002+A1:2010 en

€ 98.50

NEN-EN 620:2002+A1:2010**Stuk- en stortgoedtransporteurs - Veiligheids- en EMC-eisen voor vast opgestelde bandtransporteurs voor stortgoed**

This European standard deals with the technical requirements to minimise the risks due to the hazards listed in clause 4, which can arise during operation and maintenance of fixed belt conveyors and systems as defined in 3.1 to 3.2.4 and designed for continuously conveying loose bulk materials from the loading point(s) to the unloading point(s). Requirements for electromagnetic compatibility are also covered. This standard applies to use in ambient air temperatures of -15° C to + 40° C. This standard does not cover: a) use in open cast lignite mining or use underground, such as in mines or tunnels; b) use in public areas or for man-riding; c) floating, dredging and ship mounted equipment; d) conveyors requiring a high level of cleanliness for hygiene reasons, e.g. in direct contact with foodstuffs or pharmaceuticals; e) conveyors using a moving belt with other than a continuous rubber or polymeric surface for the conveying medium; f) transportation of the conveyor; g) the design of the supporting structure which is not part of a conveyor (see 3.2); h) the effects of wind; i) hazards resulting from handling specific hazardous materials, (e.g. explosives, radiating material); j) hazards resulting from contact with or inhalation of harmful fluids, gases, mists, fumes or dust; k) biological and micro-biological (viral or bacterial) hazards; l) hazards due to heat radiation from the materials handled; m) hazards caused by operation in electromagnetic fields outside the range of EN 61000-6-2:1999; n) hazards caused by operation subject to special regulations (e.g. explosive atmospheres); o) hazards caused by noise; p) hazards caused by the use of ionising radiation sources; q) hazards caused by hydraulic equipment. The safety requirements of this standard apply to equipment and systems placed on the market after the date of publication of this standard.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 620:2002+A1:2010 en

€ 86.00

NEN-EN 741:2000+A1:2010**Transporteurs - Veiligheidseisen voor systemen en hun componenten voor pneumatisch transport van stortgoed**

This standard specifies the special safety requirements for those types of fixed pneumatic handling systems and components as defined in clause 3, which are designed for conveying bulk materials on a continuous or an intermittent basis (batch conveying system) from the loading point(s) to the unloading point(s). This European standard deals with the technical requirements to minimise the hazards listed in clause 4 which can arise during the operation and the maintenance of the pneumatic conveying system, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. Annex A gives a list of hazards according to EN ISO 12100-1, and the safety requirements and/or measures are specified in the same order as they are given in Annex A. This standard applies to design, on site assembly, and commissioning stages. This standard applies also to the built-in actuators and parts of the systems, which control the components. The safety requirements for the transportation including loading and unloading of the components are not covered by this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 741:2000+A1:2010 en

€ 61.30

NEN-EN 1554:2012**Transportbanden - Beproeving van de trommelwrijving**

This European Standard describes a method of test to determine the propensity of a conveyor belt to generate heat flame or glow when held stationary under a given tension, in surface contact around a rotating driven steel drum. Means of varying the belt tension are described.

Type C 2006/42/EG Geverifieerd

NEN-EN 1554:2012 en

€ 49.30

NEN-EN 12881-1:2014**Transportbanden - Beproeving van de brandbaarheid met een gesimuleerde brand - Deel 1: Proeven met propaanbranders**

NEN-EN 12881-1 describes four methods for measuring the propagation of a flame along a conveyor belt which has been exposed to a relatively high localized heat source such as a fire. The damage suffered by the conveyor belt, as well as its tendency to support combustion, is measured by observing the extent to which the fire spreads along the test piece. Method A uses a test piece 2 m in length and consumes propane gas through the burner at the rate of $(1,30 \pm 0,05)$ kg per 10 min. Method B uses a test piece 2,5 m in length and consumes propane gas through two burners mounted above and below the test piece trestle at the rate of $(1,30 \pm 0,05)$ kg per 10 min for each burner. Method C uses a test piece 1,5 m in length and consumes propane gas through the burner at the rate of (565 ± 10) g per 50 min. Method D uses a test piece 1,2 m in length and consumes propane gas through the burner at the rate of 150 l/hr (D1) or 190 l hr (D2).

Type C 2006/42/EG Geverifieerd

NEN-EN 12881-1:2014 en

€ 61.30

NEN-EN 12881-2:2005+A1:2008**Transportbanden - Brandbaarheidbeproeving - Deel 2: Brandproef op grote schaal**

This part of EN 12881 describes a method of test for the assessment of fire propagation along a conveyor belt when the belt is exposed to a heat source.

Type C 2006/42/EG Geverifieerd

NEN-EN 12881-2:2005+A1:2008 en

€ 49.30

NEN-EN 12882:2015**Transportbanden voor algemeen gebruik - Eisen aan elektrische veiligheid en brandveiligheid**

NEN-EN 12882 specifies electrical and flammability safety requirements for general purpose conveyor belts not intended for use in underground installations and a means of categorizing conveyor belts in terms of the level of safety sought in their end use application. This European Standard does not provide electrical safety requirements for volume resistance which may be measured by the methods in EN ISO 21178 and which is relevant to some types of light conveyor belts. This European Standard is not applicable to conveyor belts which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 12882:2015 en

€ 49.30

NEN-EN 14973:2015**Transportbanden voor gebruik in ondergrondse installaties - Elektrische en brandtechnische veiligheidseisen**

NEN-EN 14973 specifies electrical and flammability safety requirements for conveyor belts intended for use in underground installations, in the presence of flammable or non-flammable atmospheres. Conveyor belts covered by this European Standard and intended for use in flammable atmospheres are intended for use on conveyor belt installations (machinery in mines). The belt is a component or part of equipment, which can be incorporated into the conveyor, which is an equipment of Group I, Category M2, as defined in 3.2.2 of EN 13463-1:2009. This European Standard is not applicable to light conveyor belts as described in EN ISO 21183-1:2006 nor is it applicable to conveyor belts which are manufactured before the date of publication of this document by CEN. This European Standard deals with those significant hazards detailed in A.1. Attention is drawn to Annexes ZA and ZB.

Type C 2006/42/EG Geverifieerd

NEN-EN 14973:2015 en

€ 49.30

Transportvoertuigen (industriële -)

NEN-EN 1175-1:1998+A1:2010

Veiligheid van gemotoriseerde transportwerkzeugen - Elektrische eisen - Deel 1: Algemene eisen voor transportwerkzeugen met batterijvoeding

This standard specifies electrical and related mechanical safety requirements for design and construction of the electrical installation in battery powered industrial trucks hereinafter referred to as trucks, with nominal voltages of the truck system up to 240 V. The Annex A is normative and gives requirements for "Connectors for traction batteries". Annex B is normative and contains "Electric motors - Output and test rules" and Annex C is normative and contains "Electromagnetic contactors". The requirements of this standard are applicable, when trucks are operated under the following climatic conditions: - Average ambient temperature for continuous duty: +25°C; - Maximum ambient temperature, short term (up to 1 h): +40°C; - Lowest ambient temperature for trucks intended for use in normal indoor conditions: +5 °C; - Lowest ambient temperature for trucks intended for use in normal outdoor conditions: -20 °C; - Altitude: up to 2000 m; - Relative humidity: in the range 30 % to 95 % (non condensing). This standard covers specific hazards (listed in clause 4), which could occur during the intended use of trucks. For hazards occurring during construction, transportation, commissioning, decommissioning and disposal, reference should be made to EN ISO 12100-2:2003.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1175-1:1998+A1:2010 en

€ 74.30

NEN-EN 1175-2:1998+A1:2010

Veiligheid van gemotoriseerde transportwerkzeugen - Elektrische eisen - Deel 2: Algemene eisen voor transportwerkzeugen aangedreven door een verbrandingsmotor

This standard specifies the electrical and related mechanical safety requirements for the design and construction of the electrical installation in internal combustion engine powered trucks (hereinafter referred to as "trucks") with starter battery nominal voltages up to and including 24 V. The requirements of this standard are applicable, when trucks are operated under the following climatic conditions: - Maximum ambient temperature, continuous duty: +40°C; - Lowest ambient temperature: -20 °C; - Service altitude: up to 2000 m; This standard covers specific hazards which could occur during the intended use of trucks. !For hazards occurring during construction, transportation, commissioning, decommissioning and disposal, reference should be made to EN ISO 12100-2:2003.- Relative humidity: in the range 30 % to 95 % (non condensing).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1175-2:1998+A1:2010 en

€ 49.30

NEN-EN 1175-3:1998+A1:2010

Veiligheid van gemotoriseerde transportwerkzeugen - Elektrische eisen - Deel 3: Bijzondere eisen voor elektrische krachtoverbrengingssystemen van transportwerkzeugen aangedreven door een verbrandingsmotor

This standard specifies the safety requirements for the design and construction of electrical power transmission systems of trucks with internal combustion engines driving one or more generators with outputs up to and including 600 V supplying power to function motors. The Annex A is normative and contains "Generators - Output and test rules". The requirements of this standard are applicable, when trucks are operated under the following climatic conditions: - Maximum ambient temperature, continuous duty: +40°C; - Lowest ambient temperature: -20 °C; - Service altitude: up to 2000 m; - Relative humidity: in the range 30 % to 95 % (non condensing). This standard covers specific hazards which could occur during the intended use of trucks. !For hazards occurring during construction, transportation, commissioning, decommissioning and disposal, reference should be made to EN ISO 12100-2:2003.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1175-3:1998+A1:2010 en

€ 49.30

NEN-EN 1459-1:2017

Transportwerkzeugen voor ruw terrein - Veiligheidseisen en verificatie - Deel 1: Transportwerkzeugen met variabele reikwijdte

NEN-EN 1459-1 specifies the safety requirements of self-propelled variable-reach rough-terrain trucks (hereafter referred to as trucks), intended to handle loads, equipped with a telescopic lifting means (pivoted boom), on which a load handling device (e.g. carriage and fork arms) is fitted. For the purpose of this standard, rough-terrain variable-reach trucks are designed to transport, lift and place loads and can be driven on unimproved terrain. Fork arms are considered to be part of the truck. Trucks can also be equipped with a variety of attachments (e.g. bale spikes, mowers, sweepers). This European Standard deals with all the significant hazards, hazardous situations and events relevant to the trucks when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex A). This European Standard does not apply to: - slewing variable reach rough terrain trucks covered by EN 1459-2; - industrial variable reach trucks covered by EN ISO 3691-2; - lorry-mounted variable reach trucks; - variable reach trucks fitted with tilting or elevating operator position; - mobile cranes covered by EN 13000; - machines designed primarily for earth moving, even if their buckets and blades are replaced with forks (see EN 474 series); - trucks designed primarily with variable length load suspension elements (e.g. chain, ropes) from which the load may swing freely in all directions; - trucks fitted with personnel work platforms, designed to move persons to elevated working positions; - trucks designed primarily for container handling; - trucks on tracks; - trucks with articulated chassis; - attachments (covered by prEN 1459-5). This European Standard does not address hazards linked to: - hybrid power systems; - gas power system; - gasoline engine system; - battery power system; - tractor specific devices (e.g. PTO).

Type C

NEN-EN 1459-1:2017 en

€ 86.00

NEN-EN 1459-2:2015

Terreintransportwerktuigen - Veiligheidsvoorschriften en verificatie - Deel 2: Zwenkende transportwerktuigen met variabele reikwijdte

This European Standard specifies the general safety requirements of slewing variable-reach rough-terrain trucks (here-after referred to as trucks), consisting of a lower chassis with a slewing upper structure equipped with a telescopic lifting means (pivoted boom), on which a load handling device (e.g. carriage and fork arms) is typically fitted. Fork arms are covered by this European Standard and considered to be parts of the truck. This European Standard deals with all significant hazards, hazardous situations and events relevant to the trucks when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex A). This European Standard does not apply to: - variable-reach rough terrain trucks covered by prEN 1459-1 (non-slewing); - industrial variable-reach trucks (covered by prEN ISO 3691-2); - lorry-mounted variable-reach trucks; - variable reach trucks fitted with tilting or elevating operator position; - mobile cranes (covered by EN 13000); - machines designed primarily for earth moving, such as loaders and dozers, even if their buckets and blades are replaced with forks (see EN 474 series); - trucks designed primarily with variable length load suspension elements (e.g., chain, ropes) from which the load may swing freely in all directions; - trucks designed primarily for container handling; - trucks on tracks; - attachments (prEN 1459-5). This European Standard does not address hazards linked to: - hybrid power systems; - gas power system; - trucks equipped with gasoline engine; - battery power system; - tractor specific devices (e.g. PTO). This European Standard does not address hazards which may occur when: a) handling suspended loads which may swing freely (additional requirements are given in prEN 1459-4); b) using trucks on public roads; c) operating in potentially explosive atmospheres; d) operating underground; e) when towing trailers; f) fitted with a personnel work platform (additional requirements are given in EN 1459-3).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1459-2:2015 en

€ 86.00

NEN-EN 1459-2:2015/Ontw. A1

Terreintransportwerktuigen - Veiligheidsvoorschriften en verificatie - Deel 2: Zwenkende transportwerktuigen met variabele reikwijdte

Type C

NEN-EN 1459-2:2015/Ontw. A1:2017 en

€ 16.10

NEN-EN 1459-3:2015

Terreintransportwerktuigen - Veiligheidseisen en verificatie - Deel 3: Interface tussen transportwerktuig met variabele reikwijdte en werkplatform

NEN-EN 1459-3 specifies the safety requirements for the interface between the work platform and the truck when designed for lifting of persons (covered by prEN 1459-1:2014, FprEN 1459-2:2015 or EN 1459:1998+A3:2012). This European Standard deals with the significant hazards, hazardous situations and events relevant to the interface when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer of the truck. The significant hazards covered by this standard are listed in Annex A with the exception of hazards listed below. This European Standard does not address hazards which may occur: a) when handling suspended work platforms which may swing freely; b) when using non-integrated work platforms or other attachments not intended for the lifting of persons; c) when operating in potentially explosive atmospheres. This European Standard does not give requirements for the complete truck fitted with a work platform. This standard does not address risks to parts of the truck other than the interface with the work platform.

Type C

NEN-EN 1459-3:2015 en

€ 49.30

NEN-EN 1459-5 Ontw.

Terreintransportwerktuigen - Veiligheidseisen en verificatie - Deel 5: Voorzetstukken en bijbehorende interface

This European Standard specifies requirements for the attachments and attachment interface of rough-terrain non-slewing and slewing variable reach trucks (hereafter referred to as "trucks") dealt with in FprEN 1459-1, EN 1459-2 and prEN 1459-4. This European standard only covers attachments fitted to the attachment interface on the telescopic boom. This European standard does not cover: - attachments designed for lifting person(s); - power transmission between the truck and the attachment if realized by means other than hydraulic; - attachments for container handling; - attachments permanently installed on the machine and not intended to be removed by the user; - visibility for attachments exceeding dimensional limits defined in C.3.1.

Type C

NEN-EN 1459-5:2017 Ontw. en

€ 35.70

NEN-EN 1526:1997+A1:2008**Veiligheid van gemotoriseerde mobiele transportwerkruigen - Aanvullende eisen voor geautomatiseerde functies op transportwerkruigen**

This European Standard deals with the controls and control systems for automated functions of industrial trucks with an operator (hereinafter referred to as "trucks"). The control system is generally part of the truck but can include components external to the truck, eg for the guidance means for automated steering. This European Standard deals with the technical requirements to minimise the specific hazards listed in clause 4 which can arise during the commissioning, operation and maintenance of automated functions of trucks when carried out in accordance with the specifications given by the manufacturer or his authorised representative. In addition, trucks should comply as appropriate with EN 292 for hazards not covered by this standard or the applicable companion standards. This European Standard is not applicable to safety equipment (e.g. devices for height limitation, speed limitation) used to override driver control. This European Standard deals with the hazards related to the controls and control systems for the following automated functions: - Steering (direct mechanical guidance is excluded); - Travel; - Lifting and lowering operations; - Load manipulations, e.g. rotation, reach, slewing, tilting, clamping; - Combination and/or sequence of the above movements. This standard must be used in conjunction with one or more of the applicable companion standards listed in the Foreword. This European standard does not establish the additional requirements for the following: a) Operation in severe conditions (e.g. extreme climates, freezer applications, strong magnetic fields); b) Operation in environments subject to special rules (e.g. potentially explosive atmospheres); c) Electromagnetic compatibility; d) Transportation of passengers; e) Handling of loads the nature of which could lead to dangerous situations (e.g. molten metals, acids/bases, radiating materials). Limitations in the scopes of the applicable companion standards also apply to this standard.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 1526:1997+A1:2008 en

€ 49.30

NEN-EN 1755:2015**Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Aanvullende eisen voor gebruik op plaatsen waar explosiegevaar kan heersen**

NEN-EN 1755 applies to self-propelled and pedestrian propelled manual and semi-manual industrial trucks as defined in ISO 5053-1 including their load handling devices and attachments (hereafter referred to as trucks) intended for use in potentially explosive atmospheres. This European Standard specifies supplementary technical requirements for the prevention of the ignition of an explosive atmosphere of flammable gases, vapours, mists or dusts by industrial trucks of equipment group II and equipment category 2G, 3G, 2D or 3D. This European Standard does not include: - trucks of equipment group I; - trucks of equipment group II, equipment category 1; - trucks intended for use in potentially explosive atmospheres with hybrid mixtures; - protective systems. This European Standard is not applicable to trucks intended for use in potentially explosive atmospheres of carbon disulphide (CS₂), carbon monoxide (CO) and/or ethylene oxide (C₂H₄O) due to the special properties of these gases. This standard is applicable to trucks intended for use in atmospheres with an ambient temperature range of - 20 °C to +40 °C, i.e. trucks built in accordance with this European Standard will be satisfactory to any service conditions within this range unless otherwise specified.

Type C

NEN-EN 1755:2015 en

€ 74.30

NEN-EN-ISO 3691-1:2015**Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 1: Gemotoriseerde transportwerkruigen, anders dan bestuurderloze trucks, trucks met een variabele reikwijdte en goederentransportwerkruigen**

NEN-EN-ISO 3691-1 gives safety requirements and the means for their verification for the following types of self-propelled industrial trucks (hereinafter referred to as trucks), as defined in ISO 5053: a) industrial counterbalanced trucks; b) reach trucks with retractable mast or retractable fork arm carriage; c) straddle trucks; d) pallet-stacking trucks; e) high-lift platform trucks; f) trucks with elevating operator position up to 1 200 mm; g) side-loading trucks (one side only); h) lateral-stacking trucks (both sides), and lateral- and front-stacking trucks; i) pallet trucks; j) bidirectional and multidirectional trucks; k) tractors with a drawbar pull up to and including 20 000 N; l) rough-terrain counterbalanced trucks; m) industrial trucks powered by battery, diesel, gasoline or LPG (liquefied petroleum gas).

Type C 2006/42/EG Gehrmoniseerd

NEN-EN-ISO 3691-1:2015 en

€ 143.10

NEN-EN-ISO 3691-1:2015/C11:2016**Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 1: Gemotoriseerde transportwerkruigen, anders dan bestuurderloze trucks, trucks met een variabele reikwijdte en goederentransportwerkruigen**

Type C 2006/42/EG Gehrmoniseerd

NEN-EN-ISO 3691-1:2015/C11:2016 en

€ 0.00

NEN-EN-ISO 3691-2:2016-11**Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 2: Gemotoriseerde transportwerkruigen met variabele reikwijdte**

Type C

NEN-EN-ISO 3691-2:2016-11 en

€ 143.10

NEN-EN-ISO 3691-3:2016

Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 3: Aanvullende eisen voor transportwerkruigen met meestijgende werkplek en transportwerkruigen speciaal ontworpen om te rijden met hooggeheven last

NEN-EN- ISO 3691-3 gives safety requirements and the means for their verification, additional to those of ISO 3691-1, for industrial trucks with a vertical, non-tilting mast: a) those trucks having an elevating operator position, and order-picking trucks, as defined in ISO 5053-1, where the elevating operator position and the load-handling device lifts to a height of more than 1 200 mm above ground level; b) lateral- and front-stacking trucks, as defined in ISO 5053-1, designed to travel with a load-handling device elevated more than 1 200 mm above ground level, with the load-handling device elevated, lowered or laterally displaced, laden or unladen, while the truck is travelling. These trucks are designed to travel indoors on a smooth, level surface (e.g. concrete) and can be guided, unguided, or both, when in use; they are not intended to tow or push. This part of ISO 3691 is not applicable to stacker trucks which handle two loads, one on the forks and the other on the support arms, this type of truck being covered by ISO 3691-1. It is not applicable to trucks with an elevating operator position up to and including 1 200 mm, or to trucks specifically designed to travel with an elevated load having a fork height up to and including 1 200 mm above ground level. It is not applicable to low-level order pickers with elevating operator's position up to and including 1 200 mm lift height which can be equipped with an additional load lifting device having a maximum lift height of 1 800 mm from ground level. This part of ISO 3691 deals with all significant hazards, hazardous situations, or hazardous events, as listed in Annex A, relevant to the applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. It does not establish requirements for hazards that can occur when using trucks on public roads or when operating in potentially explosive atmospheres. Regional requirements, additional to the requirements given in this part of ISO 3691, are addressed in ISO/TS 3691-7 and ISO/TS 3691-8.

Type C

NEN-EN-ISO 3691-3:2016 en

€ 79.70

NEN-EN-ISO 3691-5:2015

Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 5: Met de hand voortbewogen transportwerkruigen

NEN-EN-ISO 3691 gives safety requirements and the means for their verification for the following types of pedestrian-propelled trucks (hereafter referred to as trucks), equipped with load-handling devices for normal industrial duties, e.g. fork arms and platforms, or integrated attachments for special applications: - pedestrian-propelled straddle stackers, - pallet stackers, - industrial trucks with capacities not exceeding 1 000 kg with manual or electrical battery-powered lifting, - low-lift pallet trucks with lift height up to 300 mm and rated capacity up to 2 300 kg, - scissor-lift pallet trucks with lift heights up to 1 000 mm or rated capacity up to 1 000 kg with manual or electrical battery-powered lifting. It is applicable to trucks provided with either manual or electrical battery-powered lifting, operating on smooth, level, hard surfaces. This part of ISO 3691 deals with significant hazards, hazardous situations and events relevant to the applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex C). It does not establish the additional requirements for a) climatic conditions, b) operation in severe conditions (e.g. extreme environmental conditions such as freezer applications, high temperatures, corrosive environments, strong magnetic fields), c) electromagnetic compatibility (emission/immunity), d) handling of loads the nature of which could lead to dangerous situations (e.g. molten metal, acids/alkalis, radiating materials, especially brittle loads), e) handling suspended loads which may swing freely handling, f) use on public roads, g) direct contact with foodstuffs, h) operation on gradients or on surfaces other than smooth, level, hard surfaces, i) lifting systems using belts, j) lifting of persons, k) trucks with overturning moment greater than 40 000 Nm, l) scissor-lift trucks whose lifting is powered by external means (electric, pneumatic), m) roll containers, n) trucks that are intended to be towed by powered vehicles, o) trucks designed for special applications (e.g. hospitals, restaurant trolleys), p) winch-operated trucks, q) mobile lifting tables. Hazards relevant to noise, vibration and visibility are not significant and are not dealt with in this part of ISO 3691. Regional requirements, additional to those given in this part of ISO 3691, are addressed in ISO/TS 3691- 7.

Type C

NEN-EN-ISO 3691-5:2015 en

€ 124.99

NEN-EN-ISO 3691-6:2015

Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 6: Goederen- en personentransportwerkruigen

NEN-EN-ISO 3691 gives safety requirements and the means for their verification for self-propelled carriers designed for carrying burdens without lifting, as defined in ISO 5053, and/or personnel carriers, having three or more wheels, a maximum speed not exceeding 56 km/h and a load capacity not exceeding 5 000 kg (hereafter referred to as carriers or trucks). This part of ISO 3691 is applicable to trucks equipped with a platform (which can be tilting) for the purpose of carrying materials or with a number of seats for the purpose of transporting passengers. It is not applicable to - vehicles intended primarily for earth-moving or over-the-road hauling, - driverless trucks, - golf cars, - tractors with a drawbar pull up to and including 20 000 N equipped with a platform for the purpose of carrying materials. This part of ISO 3691 deals with all significant hazards, hazardous situations or hazardous events, as listed in Annex A, relevant to the applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. It does not establish requirements for hazards that can occur when using trucks on public roads or when operating in potentially explosive atmospheres. Regional requirements, additional to the requirements given in this part of ISO 3691, are addressed in ISO/TS 3691-7 and ISO/TS 3691-8.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3691-6:2015 en

€ 106.87

NEN-EN-ISO 3691-6:2015/C12:2016

Gemotoriseerde transportwerkruigen - Veiligheidseisen en verificatie - Deel 6: Goederen- en personentransportwerkruigen

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 3691-6:2015/C12:2016 en

€ 0.00

NEN-EN 12053:2001+A1:2008

Veiligheid van gemotoriseerde transportwerkruigen - Beproeingsmethoden voor het meten van geluidemissies

This noise measurement standard gives methods for determining the sound pressure level at the operator's position and the sound power level of industrial and rough terrain trucks. This European standard is a type test applicable to all industrial trucks listed in table A1. The test results obtained in accordance with this standard are also applicable to the evaluation of the hazard generated by noise from industrial trucks.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12053:2001+A1:2008 en

€ 49.30

NEN-EN 13059:2002+A1:2008

Veiligheid van gemotoriseerde transportwerkruigen - Beproeingsmethode voor het meten van trillingen

This European Standard is a type test procedure for establishing the values of vibration emission transmitted to the whole body of operators of industrial trucks under specified conditions. It is not applicable to hand-arm vibration. This standard is applicable to powered industrial trucks listed in ISO 5053:1987. The annex A is applicable for "all-terrain" trucks. It also applies to other powered industrial trucks not covered by ISO 5053:1987, e.g. variable-reach trucks and "low-lift" "order picking" trucks, etc. This standard is not applicable to non-stacking "low-lift" straddle carriers (as specified in 3.1.3.2.3 of ISO 5053:1987) and stacking "high-lift" straddle carriers (as specified in 3.1.3.1.11 of ISO 5053:1987). The test results, however, are not applicable to the determination of whole-body vibration exposure.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13059:2002+A1:2008 en

€ 61.30

NEN-EN 15000:2008

Veiligheid van gemotoriseerde transportwerkruigen - Gemotoriseerde heftrucks met een variabele reikwijdte - Specificatie, prestatie- en beproevingseisen voor lastmomentaanwijzers en lastmomentbegrenzers in langsrichting

This European Standard specifies the technical requirements, verification and test procedure for the longitudinal load moment indicators (LLMI) and longitudinal load moment control (LLMC) systems operating in the forward direction for self propelled variable reach trucks covered by EN 1459. This European Standard completes the requirements of Clause 5.8.4 Longitudinal stability of EN 1459:1998. The LLMI has been designated by the words longitudinal safety warning devices in EN 1459. This European Standard covers LLMI and LLMC systems for stationary trucks performing loading or placing functions on consolidated, stable and level ground. This European Standard does not cover the risk due to lateral instability, or instability due to the travelling of the truck. The LLMI and LLMC are not intended for warning of the overturning risk whilst the truck is travelling.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15000:2008 en

€ 49.30

NEN-EN 15830:2012

Terreintransportwerkruigen met variabele reikwijdte - Zichtveld - Beproeingsmethoden en verificatie

This European Standard applies to rough-terrain variable reach trucks (herein-after referred to as 'trucks') that have a specific seated operator's position, on the left hand side of the boom, or centre position (excluding operator position on the right side of the boom). This European Standard specifies a static test method for determining and evaluating the operator's visibility on a rectangular 1 m boundary close around the rough-terrain variable reach truck and on a 12 m visibility test circle. Performance requirements for visibility are specified in this standard. This European Standard does not apply to rough-terrain variable reach trucks designed to handle freight containers (rough-terrain reach stackers). It applies to trucks for operation on work sites.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15830:2012 en

€ 61.30

NEN-EN 16203:2014

Veiligheid van mobiele transportwerkruigen - Dynamische proeven voor verificatie van laterale stabiliteit - Transportwerkruigen met contragewicht

NEN-EN 16203 specifies dynamic tests for the verification of lateral stability for counterbalanced lift trucks according to EN ISO 3691-1 that have a centre control, sit down, non-elevating operator, with a rated capacity up to and including 5 000 kg when travelling on smooth level ground with the forks in travelling position. The standard is not applicable for Rough Terrain forklift trucks. The requirements are specific to the various drive systems (e.g. Electric-/Internal-Combustion-Engine trucks), taking account of their varying influence on dynamic stability performance. This European Standard does not cover the risk of a lateral tip over associated with driving backwards. Risks due to falling off a loading dock or turning on a ramp are not covered by this European Standard. Risks due to lifting or manoeuvring operations are covered by the respective stability tests.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 16203:2014 en

€ 49.30

NEN-EN 16307-1:2013+A1:2015

Gemotoriseerde transportwerk具gen - Veiligheidseisen en verificatie - Deel 1: Aanvullende eisen voor gemotoriseerde transportwerk具gen, anders dan bestuurderloze trucks, trucks met een variabele reikwijdte, en goederentransportwerk具gen

NEN-EN 16307+A1 gives requirements for the types of industrial trucks specified in the scope of EN ISO 3691-1. This European Standard is intended to be used in conjunction with EN ISO 3691-1. These requirements are supplementary to those stated in EN ISO 3691-1 with the addition of hazards, which can occur when operating in potentially explosive atmospheres. This European standard covers the following requirements: - Electrical requirements; - Noise emissions; - Vibration; - Electromagnetic compatibility (EMC). This European standard defines supplementary requirements to EN ISO 3691-1: - Travel speed; - Brakes; - Travel and breaking controls; - Additional operation from alongside pedestrian-controlled and stand-on trucks; - Lift chains; - Mast tilt and carriage isolation; - Operator's seat; - Protection against crushing, shearing and trapping; - Visibility; - Information for use (instruction handbook and marking). Annex A (informative) contains the list of significant hazards covered by this European Standard.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16307-1:2013+A1:2015 en € 49.30

NEN-EN 16307-2 Ontw.

Gemotoriseerde transportwerk具gen - Veiligheidseisen en verificatie - Deel 2: Aanvullende eisen voor gemotoriseerde transportwerk具gen met variabele reikwijdte

This European standard gives requirements for the types of industrial trucks specified in the scope of EN ISO 3691-2. This standard is intended to be used in conjunction with EN ISO 3691-2. These requirements are supplementary to those stated in EN ISO 3691-2 with the addition of hazard which can occur when operating in potentially explosive atmospheres. This European standard replaces the following requirements of EN ISO 3691-2: - electrical requirements. This European standard covers the following requirements as specified in EN ISO 3691-2: - noise emissions; - vibration; - electromagnetic compatibility (EMC). This European standard defines supplementary requirements to EN ISO 3691-2: - operator's seat; - protection against crushing, shearing and trapping; - longitudinal stability determination; - information for use (instruction handbook and marking). Annex A (informative) contains the list of significant hazards covered by this standard.

Type C

NEN-EN 16307-2:2017 Ontw. en € 23.50

NEN-EN 16307-3 Ontw.

Gemotoriseerde transportwerk具gen - Veiligheidseisen en verificatie - Deel 3: Aanvullende eisen voor transportwerk具gen met meestijgende werkplek en transportwerk具gen speciaal ontworpen om te rijden met hooggeheven last (aanvullende eisen op EN 16307-1)

This European standard gives requirements for the types of industrial trucks specified in the scope of EN ISO 3691-3. This standard is intended to be used in conjunction with EN ISO 3691-3. These requirements are supplementary to those stated in EN ISO 3691-3. This European standard defines supplementary requirements to EN ISO 3691-3: - Brakes - Fall Protection Device - Stability - Information for use (instruction handbook and marking) Annex A (informative) contains the list of significant hazards covered by this standard.

Type C

NEN-EN 16307-3:2017 Ontw. en € 23.50

NEN-EN 16307-5:2013

Gemotoriseerde transportwerk具gen - Veiligheidseisen en verificatie - Deel 5: Aanvullende eisen voor door voetgangers voortbewogen transportwerk具gen

This European Standard gives requirements for the types of industrial trucks specified in the scope of EN ISO 3691-5. This European Standard is intended to be used in conjunction with EN ISO 3691-5. These requirements are supplementary to those stated in EN ISO 3691-5 with the addition of following hazards: - Electromagnetic compatibility (EMC); - When operating in potentially explosive atmospheres. This European standard partially replaces the following requirements of EN ISO 3691-5: - Electrical requirements. This European standard defines supplementary requirements to EN ISO 3691-5: - Protection against crushing, shearing and trapping; - Information for use (instruction handbook and marking). Annex A (informative) contains the list of significant hazards covered by this standard.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16307-5:2013 en € 49.30

NEN-EN 16307-6:2014

Gemotoriseerde transportwerk具gen - Veiligheidseisen en verificatie - Deel 6: Aanvullende eisen voor goederen- en personentransportwerk具gen

NEN-EN 16307-6 gives requirements for the types of industrial trucks specified in the scope of prEN ISO 3691-6. This standard is intended to be used in conjunction with prEN ISO 3691-6. These requirements are supplementary to those stated in prEN ISO 3691-6 with the addition of following hazards: - Noise emissions; - Vibration; - Electromagnetic compatibility (EMC); - When operating in potentially explosive atmospheres. This European standard replaces the following requirements of prEN ISO 3691-6: - Electrical requirements. This European standard defines supplementary requirements to prEN ISO 3691-6: - Brakes; - Operator's seat; - Protection from burning; - Protection against crushing, shearing and trapping; - Visibility; - Information for use (instruction handbook and marking).

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16307-6:2014 en € 49.30

NEN-EN 16842-1 Ontw.**Gemotoriseerde transportwerkruigen - Zichtveld - Beproeingsmethoden en verificatie - Deel 1: Algemene eisen**

The EN 16842 series specify requirements and test procedures of all around visibility of self-propelled industrial trucks in accordance with ISO/DIS 5053-1 with a sit-on or stand-on operator, without load, and equipped with fork arms or load platform. This part of the EN 16842 series gives the common test requirements for powered industrial truck visibility testing and is intended to be used in conjunction with EN 16842 parts 2 to x. The truck specific requirements in EN 16842 parts 2 to x take precedence over the respective requirements of EN 16842-1. The requirements of the applicable part of EN 16842 take precedence over the requirements of 4.12 of EN 16307-1. The standard does not apply to: - trucks with elevating operator position, when the operating position is elevated; - rough terrain variable reach trucks - within the scope of EN 15830; - centre controlled order picking truck (in accordance with 2.17 of ISO/DIS 5053-1); - pallet truck end controlled (in accordance with 2.16 of ISO/DIS 5053-1). In addition, the following trucks in normal operation have excellent all round visibility and therefore will not be part of this series of standards: - ride on pallet truck; - pedestrian controlled pallet trucks.

Type C

NEN-EN 16842-1:2015 Ontw. en

€ 23.50

NEN-EN 16842-2 Ontw.**Gemotoriseerde transportwerkruigen - Zichtveld - Beproeingsmethoden en verificatie - Deel 2:****Transportwerkruigen met zittende bestuurder met contragewicht en terreintransportwerkruigen met mast met hefvermogen tot en met 10 000 kg**

This European Standard specifies the requirements and test procedures of all around visibility of sit-on self-propelled industrial counterbalanced trucks and rough terrain masted trucks with a capacity = 10 000 kg in accordance with ISO/DIS 5053-1 and should be read in conjunction with EN 16842-1. Where specific requirements are contained in this part they take precedence over the general requirements of EN 16842-1.

Type C

NEN-EN 16842-2:2015 Ontw. en

€ 23.50

NEN-EN 16842-3 Ontw.**Gemotoriseerde transportwerkruigen - Zicht - Beproeingsmethoden ter verificatie - Deel 3: Reach trucks met een hefvermogen tot en met 10 000 kg**

This European Standard specifies the requirements and test procedures for 360° visibility of reach trucks with a sit-on or stand-on operator, without load (herein after referred to as truck), with a capacity up to and including 10 000 kg in accordance with ISO 5053-1 and is intended to be used in conjunction with FprEN 16842-1. Where specific requirements in this part are modified from the general requirements in FprEN 16842-1, the requirements of this part are truck specific and to be used for reach trucks with a sit-on or stand-on operator with a capacity = 10 000 kg. This part of EN 16842 deals with all significant hazards, hazardous situations or hazardous events as listed in Annex ZA, Table ZA.1, relevant to the visibility of the operator for applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C

NEN-EN 16842-3:2017 Ontw. en

€ 23.50

NEN-EN 16842-4:2018 Formal Vote**Gemotoriseerde transportwerkruigen - Zicht - Beproeingsmethoden ter verificatie - Deel 4: Heftrucks met variabele reikwijdte en een hefvermogen tot en met 10 000 kg**

This European Standard specifies the requirements and test procedures of 360° visibility of sit-on self-propelled variable reach industrial counterbalance trucks (herein after referred to as truck) with a capacity = 10 000 kg in accordance with ISO 5053-1 and is intended be used in conjunction with FprEN 16842-1. Where specific requirements in this part are modified from the general requirements in FprEN 16842-1, the requirements of this part are truck specific and to be used for self-propelled industrial order-picking, lateral- and front-stacking trucks with elevating operator position. This part of EN 16842 deals with all significant hazards, hazardous situations or hazardous events as listed in Annex ZA, Table ZA.1, relevant to the visibility of the operator for applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C

NEN-EN 16842-4:2017 Ontw. en

€ 23.50

NEN-EN 16842-6:2018 Formal Vote**Gemotoriseerde transportwerkruigen - Zicht - Beproeingsmethoden ter verificatie - Deel 6: Transportwerkruigen met zittende bestuurder met contragewicht en terreintransportwerkruigen met mast met een hefvermogen groter dan 10 000 kg**

This European Standard specifies the requirements and test procedures for 360° visibility of sit-on self-propelled industrial counterbalance trucks and rough terrain masted trucks (herein referred to as truck) with a capacity greater than 10 000 kg in accordance with ISO 5053-1 and is intended to be used in conjunction with FprEN 16842-1. Where specific requirements in this part are modified from the general requirements in FprEN 16842-1, the requirements of this part are truck specific and to be used for sit-on self-propelled industrial counterbalance trucks and rough terrain masted trucks with a capacity greater than 10 000 kg. This part of EN 16842 deals with all significant hazards, hazardous situations or hazardous events as listed in Annex ZA, Table ZA.1, relevant to the visibility of the operator for applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C

NEN-EN 16842-6:2017 Ontw. en

€ 23.50

NEN-EN 16842-7:2018 Formal Vote

Gemotoriseerde transportwerkruigen - Zicht - Beproevingsmethoden ter verificatie - Deel 7: Transportwerkruigen met variabele reikwijdte of met mast voor de behandeling van containers met een lengte van 6 m en langer

This European Standard specifies the requirements and test procedures for 360° visibility of sit-on self-propelled industrial variable reach truck and masted trucks (herein referred to as truck) specifically designed for the transport of freight containers of 6 m length and longer, equipped with a spreader in accordance with ISO 5053-1 and is intended to be used in conjunction with FprEN 16842-1. Where specific requirements in this part are modified from the general requirements in FprEN 16842-1, the requirements of this part are truck specific and to be used for sit-on self-propelled industrial variable reach truck and masted trucks handling freight containers. This part of EN 16842 deals with all significant hazards, hazardous situations or hazardous events as listed in Annex ZA, Table ZA.1, relevant to the visibility of the operator for applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This standard does not apply to trucks equipped with forks.

Type C

NEN-EN 16842-7:2017 Ontw. en

€ 23.50

NEN-EN 16842-9 Ontw.

Gemotoriseerde transportwerkruigen - Zicht - Beproevingsmethoden ter verificatie - Deel 9: Orderverzamel-, zijaarts- en aan de voorzijde stapelende trucks met meestijgende bestuurdersplaats

This European Standard specifies the requirements and test procedures for 360° visibility of unladen self-propelled industrial order-picking, lateral- and front-stacking trucks with elevating operator position (herein referred to as truck), in accordance with ISO 5053-1 and is intended to be used in conjunction with prEN 16842-1. Where specific requirements in this part are modified from the general requirements in prEN 16842-1, the requirements of this part are truck specific and to be used for self-propelled industrial order-picking, lateral- and front-stacking trucks with elevating operator position. This part of EN 16842 deals with all significant hazards, hazardous situations or hazardous events as listed in Annex ZA Table ZA.1, relevant to the visibility of the operator for applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C

NEN-EN 16842-9:2017 Ontw. en

€ 23.50

Verbrandingsmotoren**NEN-EN 1679-1:1998+A1:2011**

Zuigermotoren met inwendige verbranding - Veiligheid - Deel 1: Dieselmotoren

This standard specifies the safety requirements for compression ignition engines and their essential auxiliaries used in all applications on land, underground and water, except engines used to propel road vehicles and aircraft. The special requirements needed to cover operation in potentially explosive atmospheres are not covered in this standard. The engine in terms of this standard is understood as the prime mover up to its driving extremities(s) for power take off(s). The hazards relevant to compression ignition engines are identified in annex A. This standard should be referred to in other standards wherever compression ignition engines are used.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1679-1:1998+A1:2011 en

€ 49.30

NEN-EN-ISO 8528-13:2016

Generatoren voor wisselstroom aangedreven door een zuigermotor met inwendige verbranding - Deel 13: Veiligheid

NEN-EN-ISO 8528-13 specifies the safety requirements for reciprocating internal combustion (RIC) engine driven generating sets up to 1 000 V consisting of an RIC engine, an alternating current (AC) generator including the additional equipment required for operating, e.g. controlgear, switchgear, auxiliary equipment. It is applicable to generating sets for land and marine use (domestic, recreational and industrial application). It is not applicable to generating sets used on board of seagoing vessels and mobile offshore units as well as on aircraft or to propel road vehicles and locomotives. The special requirements needed to cover operation in potentially explosive atmospheres are not covered in this part of ISO 8528. The hazards relevant to RIC engine driven generating sets are identified in Annex A. This part of ISO 8528 deals with the special requirements of test and safety design which should be observed in addition to the definitions and requirements in ISO 8528-1, ISO 8528-2, ISO 8528-3, ISO 8528-4, ISO 8528-5 and ISO 8528-6, where applicable. It specifies safety requirements in order to protect the user from danger.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 8528-13:2016 en

€ 143.10

NEN-EN-ISO 11102-1:2009

Zuigermotoren met inwendige verbranding - Startinrichtingen met handslinger - Deel 1: Veiligheidseisen en beproevingen

Specifies requirements for handle starting equipment used on reciprocating internal combustion engines for land, rail and marine use, excluding engines used to propel road vehicles and aircraft. It may be applied to engines used to propel road construction, earth moving machines and for other applications where no suitable International Standard exists. In addition to the technical safety requirements, this part of ISO 11102 describes procedures for checking adherence to these requirements.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 11102-1:2009 en

€ 34.42

NEN-EN-ISO 11102-2:2009

Zuigermotoren met inwendige verbranding - Startinrichtingen met handslinger - Deel 2: Beproeving van de loslaathoek

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 11102-2:2009 en

€ 52.53

NEN-EN-ISO 14314:2009

Zuigermotoren met inwendige verbranding - Repeteerstartinrichting - Algemene veiligheidseisen

This International Standard specifies the safety requirements for engine re-coil starting equipment intended for use on RIC engines for land, rail and marine use, excluding engines intended for use to propel road vehicles and aircraft. It may be applied to engines intended for use to propel construction and earth-moving machines and for other applications where no other suitable International Standards exist. In addition to the technical safety requirements, it also contains the method of checking the adherence to these requirements. This International Standard only addresses the hazards associated with the installation and operation of recoil starting equipment. This International Standard is primarily directed at machines which are manufactured after the date of publication of this International Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 14314:2009 en

€ 34.42

Verpakkingsmachines**NEN-EN 415-1:2014**

Veiligheid van verpakkingsmachines - Deel 1: Terminologie en indeling van verpakkingsmachines en toebehoren

NEN-EN 415-1 defines the field of packaging machines. The machines defined fall within the following general groups: - filling machines; - closing machines; - labelling, decorating and coding machines; - cleaning, sterilizing, cooling and drying machines; - fill and seal machines; - inspection machines; - container and packaging component handling machines; - form, fill and seal machines; - carton erecting, carton closing and cartoning machines; - wrapping machines; - group or secondary packaging machines; - palletizers, depalletizers and ancillary equipment; - pallet wrapping machines; - strapping machines. This part of EN 415 indicates the relevant machine specific part of EN 415, or another relevant standard, where safety requirements for dealing with the hazards associated with these machines can be found.

Type C 2006/42/EG Geverifieerd

NEN-EN 415-1:2014 en

€ 98.50

NEN-EN 415-3:2000+A1:2009

Veiligheid van verpakkingsmachines - Deel 3: Vorm-, vul- en sluitmachines

This European Standard establishes safety requirements for form, fill and seal packaging machines and the filling machines which are particularly associated with them. This group of machines is defined in detail in clause 3 of this standard, with diagrams illustrating examples of the principle of operation of each machine type. However briefly, this standard covers the following broad groups of machines: - horizontal form, fill and seal machines; - vertical form, fill and seal machines; - pre-made bag erect fill and seal machines; - mandrel flexible package or carton form, fill and seal machines; - carton erect, fill and close machines; - thermoform, fill and seal machines. Filling machines commonly fitted to form, fill and seal machines including: - auger fillers; - volumetric cup fillers; - volumetric piston fillers; - counters; - gravimetric fillers (weighers). This standard covers the safety requirements for machine design, construction, installation, commissioning, operation, adjustment, maintenance and cleaning. This part of EN 415 applies primarily to machines manufactured after the date of issue of this standard. This standard does not cover in detail the safety or hygiene hazards associated with the products which may be handled on form, fill and seal machines, but does include general advice. This standard does not cover thermoforming machines. These machines are covered in prEN 12409. This standard does not cover blow mould, fill and seal machines. The main hazards and safety requirements for these machines are described in EN 422. This document is not applicable to form, fill and seal machines which are manufactured before the date of its publication as EN 415-3:1999 as amended.

Type C 2006/42/EG Geverifieerd

NEN-EN 415-3:2000+A1:2009 en

€ 98.50

NEN-EN 415-5:2006+A1:2009

Veiligheid van verpakkingsmachines - Deel 5: Productwikkelmachines

This European Standard applies to the following groups of machines: wrapping machines which partially wrap products (see Figures 1-4) wrapping machines which form a complete wrap without sealing (see Figures 5-7) wrapping machines which form a complete wrap with sealing (see Figures 8-14) shrinking equipment which is connected to wrapping machines covered by this standard (see Figures 15- 16) The individual machines are described in 3.2 of this standard. This European Standard deals with safety requirements for machine design, construction, installation, commissioning, operation, adjustment, maintenance and cleaning of wrapping machines. The extent to which hazards, hazardous situations and events are covered are indicated in Clause 4 of this document. Exclusions: This standard is not applicable to larger examples of wrapping machines designed to handle products higher than 400 mm and wider than 400 mm. These machines are covered by EN 415-6. This document is not applicable to wrapping machines which are manufactured before the date of publication of this document by CEN. This standard does not consider the following hazards: • Use of wrapping machines in potentially explosive atmospheres; • Health, safety or hygiene hazards associated with the products that may be handled by the machines but does include general advice on this subject; • Hazards that may be associated with electromagnetic emissions from wrapping machines; • Hazards that may be associated with decommissioning wrapping machines. 2 Normative references The following referenced documents are indispensable for the application of this document.

Type C 2006/42/EG Geverifieerd

NEN-EN 415-5:2006+A1:2009 en

€ 110.00

NEN-EN 415-6:2013

Veiligheid van verpakkingsmachines - Deel 6: Palletwikkelmachines

This standard applies to the following groups of machines: - pallet banding machines; - stretch film pallet wrapping machines; - stretch film hood application machines; - mobile stretch film wrapping machines; - semi automatic self driving stretch film wrapping machines; - shrink film pallet wrapping machines; - shrink film hood application machines; - film removing machines; - shrinking systems; - sleeve wrapping machines for product greater than 400 mm in one direction; - product centralising machines. The individual machines are described in 3.2. This standard deals with safety requirements for machine design, construction, installation, commissioning, operation, adjustment, maintenance and cleaning of pallet wrapping machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 415-6:2013 en

€ 98.50

NEN-EN 415-7:2006+A1:2008

Veiligheid van verpakkingsmachines - Deel 7: Verpakkingsmachines voor verzamel- en secundaire verpakkingen

This European Standard applies to the following groups of machines: Group and secondary packaging machines and the collating systems associated with them. The individual machines are described in 3.2 of this European Standard. This European Standard deals with safety requirements for machine design, construction, installation, commissioning, operation, adjustment, maintenance and cleaning of group and secondary packaging machines. The extent to which hazards, hazardous situations and events are covered, are indicated in Clause 4.

Exclusions This European Standard is not applicable to the following machines: - machines that were manufactured before the date of publication of this document by CEN; - strapping machines. These machines are covered by EN 415-8; - crate loaders and un-loaders for pre-formed rigid containers. These machines are covered by EN 415-2; - cartoning machines. Cartoning machines are covered by EN 415-3. This European Standard does not consider the following hazards: - use of group and secondary packaging machines in potentially explosive atmospheres; - health, safety or hygiene hazards associated with the products that may be handled by the machines, but does include general advice on this subject; - hazards that may be associated with electromagnetic emissions from group and secondary packaging machines; - hazards that may be associated with decommissioning group and secondary packaging machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 415-7:2006+A1:2008 en

€ 110.00

NEN-EN 415-8:2008

Veiligheid van verpakkingsmachines - Deel 8: Omsnoeringsmachines

This European Standard applies to the following groups of machines: - powered hand strapping tools; - semi-automatic strapping machines; - automatic strapping machines; - horizontal pallet strapping machines; - vertical pallet strapping machines. The individual machines are described in 3.3. This European Standard deals with safety requirements for machine design, construction, installation, commissioning, operation, adjustment, maintenance and cleaning of strapping machines. The extent to which hazards, hazardous situations and events are covered, are indicated in Clause 4. **Exclusions** This European Standard is not applicable to the following machines: - strapping tools that are powered exclusively by manual effort; - strapping machines that were manufactured before the date of publication of this document by CEN. This European Standard does not consider the following hazards: - the use of strapping machines in potentially explosive atmospheres; - the health, safety or hygiene hazards associated with the products that may be handled by the machines, but does include general advice on this subject; - hazards that can be associated with electromagnetic emissions from strapping machines; - hazards that can be associated with decommissioning strapping machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 415-8:2008 en

€ 98.50

NEN-EN 415-9:2009

Veiligheid van verpakkingsmachines - Deel 9: Meetmethoden van geluid voor verpakkingsmachines, verpakkingslijnen en ondersteunende apparatuur - Nauwkeurigheidsklasse 2 en 3

This standard specifies all the information necessary to carry out efficiently and under defined conditions the determination, information and verification of airborne noise emission from packaging machine covered by EN 415-1. This measurement method specifies procedures for the determination of emission sound pressure levels at work station, at other specified positions and the sound power level on the basis of both the sound pressure level method and the sound intensity method. It also specifies installation and operating conditions. This standard applies to machines covered by EN 415-1 as well as for any other packaging machine which are not covered by any other specific noise test code as well as for machines being part of packaging line. In such cases, all information relating to the assembly, installation and to the operating conditions as well as the arrangement of the work station shall be recorded and reported in the test report. Noise emission characteristics include the following data: emission sound pressure level at work station and at other specified positions; sound power emitted by machine. Both can be used: to determine the noise emitted by machine; to inform on the noise emitted by the machine; to verify the noise emitted by the machine. Noise emission values permit comparison of packaging machines on the market. The use of this standard ensures the reproducibility of the determination of the characteristic noise emissions values within specific limits which will be determined by the grade of accuracy of the noise emission measuring method used.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 415-9:2009 en

€ 61.30

NEN-EN 415-10:2014**Veiligheid van verpakkingsmachines - Deel 10: Algemene eisen**

NEN-EN 415-10 gives general requirements for packaging machines which are defined in the scope of EN 415-1 or are in the scope of another relevant machine specific part of EN 415. When used together with a relevant machine specific part of EN 415, it gives the requirements for that specific type of machine. This document deals with safety requirements and their verification for design, construction, installation, commissioning, operation, adjustment, maintenance and cleaning of packaging machines when used as intended and under the conditions of misuse foreseeable by a manufacturer. The extent to which hazards, hazardous situations and events are covered is indicated in Clause 4. The hazards on a specific machine can vary depending on its working principle; the type, size and mass of the product; the packaging material; auxiliary equipment attached to the machine and the environment in which the machine is used. If the machine presents hazards that are not dealt with in this standard, the manufacturer should assess these hazards by using the principles detailed in EN ISO 12100:2010. Such deviations or additions are outside the scope of this standard. Exclusions This European Standard is not applicable to the following: - machines that were manufactured before the date of publication of this document by CEN. This standard does not consider the following: - the risk resulting from the use of machines in public accessed areas. NOTE For machines used in public accessed areas different or additional requirements can apply. It is the responsibility of the manufacturer to identify such additional risks, which are outside the scope of this standard or such deviating risks which arise from this specific use, and provide suitable protective measures in accordance with EN ISO 12100. - the use of packaging machines in potentially explosive atmospheres; - specific health, safety or hygiene hazards associated with the products that may be handled by the machines, but does include general advice on this subject; - hazards that may be associated with decommissioning packaging machines.

Type C 2006/42/EG Geverifieerd

NEN-EN 415-10:2014 en

€ 110.00

Voedselbereiding (machines voor de -)**NEN-EN 453:2014****Machines voor voedselbereiding - Deegmengers en -kneders - Veiligheids- en hygiëne-eisen**

NEN-EN 453 specifies safety and hygiene requirements for the design and manufacture of dough mixers with rotating bowls of capacity greater than or equal to 5 L and less than or equal to 500 L. These dough mixers are used separately or in a line in the food industry and shops (pastry-making, bakeries, confectionery, etc.) for manufacturing of dough by mixing flour, water and other ingredients. These machines can be fed by hand or mechanically. These machines are sometimes used in other industries (e.g. pharmaceutical industry, chemical industry, printing), but hazards related to these uses are not dealt with in this standard. This European Standard deals with all significant hazards, hazardous situations and events relevant to the transport, installation, adjustment, operation, cleaning, maintenance, dismantling, disassembling and scrapping of dough mixers, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 453:2014 en

€ 74.30

NEN-EN 454:2014**Machines voor voedselbereiding - Planetaire mengers - Veiligheids- en hygiëne-eisen**

NEN-EN 454 specifies safety and hygiene requirements for the design and manufacture of fixed bowl planetary mixers with a tool having a planetary movement. The capacity of the bowl is greater than or equal to 5 l and less than or equal to 200 l. These machines are used to process various ingredients e.g. cocoa, flour, sugar, oils and fat, minced meat, eggs, and other ingredients, in the catering, bakery, pizza, pastry and confectionary industry. These machines are sometimes used in other industries (e.g. pharmaceutical industry, chemical industry, printing, etc.), but hazards related to these uses are not dealt with in this standard. Processing is carried out in cycles of variable duration. It can be either manually or automatically-controlled, in individual cycles or on a cycle repeat basis, etc. Manual operations are sometimes necessary to add ingredients without stopping the beater. On machines fitted with a bowl lifting and lowering device or with a device for moving the bowl/head/beater vertically the working position is that when the beater is nearest to the bottom of the bowl. This European Standard deals with all significant hazards, hazardous situations and events relevant to planetary mixers, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer. It deals with the hazards due to the use, the maintenance and the cleaning (see Clause 4).

Type C 2006/42/EG Geverifieerd

NEN-EN 454:2014 en

€ 74.30

NEN-EN 1672-1:2014**Machines voor voedselbereiding - Algemene basisregels - Deel 1: Veiligheidseisen**

NEN-EN 1672-1 deals with the significant hazards, hazardous situations and events relevant to commercial and industrial food processing machines as defined in Clause 3 when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the significant hazards, hazardous situations and events that occur during transport, assembly and installation, commissioning, setting, teaching, programming, process changeover, operation, cleaning, fault finding and maintenance. This European Standard deals with those risks which occur commonly in food processing machines and for which common technical requirements can be set which can be applied at all (or most) machines which have that particular hazard. Exclusions: This European Standard is not applicable to the following machines: - food processing machines intended for domestic use; - food processing machines covered by the machine-specific standards listed in Annex C; - packaging machines; - machines used in the agricultural and animal rearing sectors. This European Standard does not deal with the hygiene risks to the consumer of the food product handled in the food processing machine. These risks are dealt with in EN 1672-2:2005+A1:2009. This European Standard is not applicable to food processing machines that were manufactured before the date of its publication as a European Standard.

Type C

NEN-EN 1672-1:2014 en

€ 74.30

NEN-EN 1672-2:2005+A1:2009

Machines voor voedselbereiding - Algemene basisregels - Deel 2: Hygiëne-eisen

This document specifies common hygiene requirements for machinery used in preparing and processing food for human and, where relevant, animal consumption to eliminate or minimise the risk of contagion, infection, illness or injury arising from this food. It identifies the hazards which are relevant to the use of such food processing machinery and describes design methods and information for use for the elimination or reduction of these risks. This document does not deal with the hygiene related risks to personnel arising from the use of the machine. This document applies to food processing machines – Examples of such groups of food processing machinery are given in the informative Annex B.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1672-2:2005+A1:2009 en

€ 74.30

NEN-EN 1673:2000+A1:2009

Machines voor voedselbereiding - Bakovens met draaibare rekken - Veiligheids- en hygiëne-eisen

This standard specifies safety and hygiene requirements for the design and manufacture of rotary rack ovens with one or more rotary racks. These ovens are used in the food industry and shops (bakeries, pastry-making, etc.) for the batch baking of foodstuffs containing flour, water and other additives. This standard applies to ovens used only for food products except for those containing volatile flammable ingredients. The control of the humidity of the air in the baking chamber is by the production and introduction of steam around normal atmospheric pressure. The following machines are excluded: - experimental and testing machines under development by the manufacturer; - domestic appliances. This standard covers the technical safety requirements for the transport, installation, operation, cleaning and maintenance of these machines (see 5.2 and 5.3 of EN 12100-1:2003).¹ This document deals with all significant hazards, hazardous situations and events relevant to rotary rack ovens, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Noise is not considered to be a significant hazard. This does not mean that the manufacturer is absolved from reducing noise and making a noise declaration. Therefore a noise test code is given in Annex B. The hazards from the use of gaseous fuel by gas appliances are not covered by this standard. This standard is not applicable to rotary rack ovens which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1673:2000+A1:2009 en

€ 74.30

NEN-EN 1674:2015

Machines voor voedselbereiding - Deegrolmachines - Veiligheids- en hygiëne eisen

NEN-EN 1674 specifies safety and hygiene requirements for the design and manufacture of dough sheeters, as described in Clause 3, used in the food industry and craft activities (bread-making, pastry-making, sweet industries, bakeries, confectioners, delicatessens, catering facilities, etc.) for reducing the thickness of a solid mass of dough or pastry by rolling it out. This European Standard deals with all significant hazards, hazardous situations and events relevant to the transport, installation, adjustment, operation, cleaning, maintenance, dismantling, disassembling and scrapping of dough mixers, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with all significant hazards, hazardous situations and events relevant to dough sheeters, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 5). Noise is not considered to be a significant hazard. This does not mean that the manufacturer is absolved from reducing noise and making a noise declaration. Therefore a noise test code is given in Annex B. The following machines are excluded: - experimental and testing machines under development by the manufacturer; - dough sheeters where the dough is fed to the rollers by gravity (e.g. pizzabase dough sheeters); - domestic appliances¹). This European Standard is not applicable to dough sheeters which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1674:2015 en

€ 74.30

NEN-EN 1678:1998+A1:2010

Machines voor voedselbereiding - Snijmachines voor groenten - Veiligheids- en hygiëne-eisen

This European Standard specifies the safety and hygiene requirements for the design and manufacture of vegetable cutting machines which are transportable and have a maximum rated power less than 3 kW. This European Standard deals with machines intended for cutting, shredding, dicing, chipping and grating of food products in which the product passes through the machine. As described in 3.2.1, the types of machines in the scope are machines with a fixed chamber and rotating blade or cutting disc, with a rotating drum and fixed blades or machines with horizontal reciprocating cutters (mainly used for potato chipping). This European Standard specifies all significant hazards, hazardous situations and events relevant to vegetable cutting machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during commissioning, operation, cleaning, removal of food blockages, feeding, changing the tools, maintenance and decommissioning of the machine.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1678:1998+A1:2010 en

€ 74.30

NEN-EN 1974 Ontw.

Machines voor voedselbereiding - Snijmachines voor vlees - Veiligheids- en hygiëne-eisen

This European Standard specifies the safety and hygiene requirements for the design and manufacture of slicing machines which are fitted with power-driven circular cutting blade of more than 150 mm in diameter, with a product support. These types of slicing machines are intended to be used in shops, restaurants, supermarkets, canteens, etc. to slice foodstuffs. This European Standard covers all significant hazards at such machines, as identified by risk assessment (see EN ISO 12100:2010), which are listed in Clause 4 of this standard. This European Standard applies when the machines in its scope are operated under the intended use as defined in EN ISO 12100:2010, 3.23 and 5.3.2, and stated in the instruction handbook (see 7.2), including cleaning, dismantling of removable parts and changing the blade. Machines covered by EN 16743 are excluded from the scope of this standard. Vibration is not considered to be a significant hazard for these machines. This European Standard covers the following types of slicing machines: - horizontal feed slicers (manual, see Figure 1, or automatic, see Figure 13); - gravity feed slicers (manual, see Figure 2, or automatic). Slicing machines consist of a base, a blade, a blade cover, a blade guard, a blade sharpener, a gauge plate (a guard plate for automatic slicers), a product support, a reciprocating carriage, a product pusher and electrical control components. Slicing machines can be equipped with: - clamping device, - stacker, - discharge conveyor. This standard applies to machines which are manufactured after the date of issue of this standard.

Type C

NEN-EN 1974:2016 Ontw. en

€ 35.70

NEN-EN 1974:1998+A1:2009

Machines voor voedselbereiding - Snijmachines voor vlees - Veiligheids- en hygiëne-eisen

This European Standard specifies the safety and hygiene requirements for the design and manufacture of slicing machines which are fitted with power driven circular cutting blade of more than 150 mm in diameter, with a reciprocating feed carriage and are transportable. These types of slicing machines are intended to be used in shops, restaurants, supermarkets, canteens etc. Industrial slicers are excluded. They are normally used in meat and sausage processing plants; they are not intended to be transportable and are permanently placed in position. It covers all significant hazards at such machines, as identified by risk assessment (see EN 1050), which are listed in 4 of this Standard. It applies when such machines are operated under the intended use as defined in I3.22 and 5.2 of EN ISO 12100-1:2003" and stated in the instruction handbook (see 7.2), included cleaning, dismantling of removable parts and changing thThis Standard covers the following types of slicing machines: Horizontal feed slicers (manual - see figure 1 - or automatic - see figure 13 -); Gravity feed slicers (manual - see figure 2 - or automatic). Slicing machines consist of a base, a blade, a blade cover, a blade guard, a blade sharpener, a gauge plate (a guard plate for automatic slicers), a product holder, a reciprocating carriage, a product pusher and electrical control components. Slicing machines can be equipped with: Clamping device, Stacke, Discharge conveyor. This Standard applies to machines which are manufactured after the date of issue of this Standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1974:1998+A1:2009 en

€ 74.30

NEN-EN 12041:2014

Machines voor voedselbereiding - Deegwalsen - Veiligheids- en hygiëne-eisen

NEN-EN 12041 applies to the design and manufacture of moulders of the types described from 3.2.1 to 3.2.4 and illustrated in Figure 1 to Figure 3. These moulders are used separately or in a line in the food industry and shops (pastry-making, bakeries, confectionery, etc.) for flattening, rolling and, but not necessarily, elongating pieces of dough. These machines can be fed by hand or mechanically. This document deals with all significant hazards, hazardous situations and events relevant to the transport, installation, adjustment, operation, cleaning, maintenance, dismantling, disassembling and scrapping of moulders, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard does not deal with: - designs of moulder other than those described from 3.2.1 to 3.2.4; - experimental and testing machines under development by the manufacturer; - domestic appliances; - bagel machines; - additional hazards generated when the machine is used in a line; - dough and pastry brakes (see EN 1674). This document is not applicable to machines which are manufactured before its date of publication as a European standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12041:2014 en

€ 74.30

NEN-EN 12042:2014

Machines voor voedselbereiding - Automatische deegverdeelmachines - Veiligheids- en hygiëne-eisen

NEN-EN 12042 applies to the design and manufacture of standalone automatic dough dividers, having a feed hopper, an outlet and a dividing system (see 3.2). These automatic dough dividers are used separately or in a line in the food industry and shops (pastry-making, bakeries, confectionery, etc.) for dividing dough or pastry into adjustable portions to produce the required weight of dough piece during a dividing process. These machines can be fed by hand or mechanically. This European Standard deals with all significant hazards, hazardous situations and events relevant to the transport, installation, adjustment, operation, cleaning, maintenance, dismantling, disassembling and scrapping of automatic dough dividers, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). These machines are not intended to be cleaned with pressurized water. These machines are not intended to be cleaned with pressurized water. This European Standard is not applicable to the following: - experimental and testing machines, under development by the manufacturer; - weighing devices; - pressure dough dividers, without a feed hopper, using knives for the dividing process; - lines with separate cutting or forming elements outside the housing; - lifting and tilting machines1) or other separate feeding machines; - additional hazards generated when the machine is used in a line or mechanically fed. A noise test code is included in Annex A to assist manufacturers to measure noise levels for the purpose of the noise emission declaration. This European Standard is not applicable to machines which are manufactured before its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12042:2014 en

€ 74.30

NEN-EN 12043:2014**Machines voor voedselbereiding - Rijskamers voor deeg - Veiligheids- en hygiëne-eisen**

NEN-EN 12043 specifies safety and hygiene requirements for the design and manufacture of intermediate provers with powered moving pocket carriers as described in Clause 3 and used in the food industry, pastry-making, bakeries, etc. for giving a resting time to dough between different phases of the process. This European Standard deals with all significant hazards, hazardous situations and events relevant to the installation, adjustment, operation, cleaning, maintenance, dismantling, disabling and scrapping of intermediate provers with moving pocket carriers when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Noise is not considered to be a significant hazard by intermediate provers. This does not mean that the manufacturer of the machine is absolved from reducing noise and making a noise declaration. Therefore a noise test code is proposed in Annex A.

Type C 2006/42/EG Geverifieerd

NEN-EN 12043:2014 en € 74.30

NEN-EN 12267:2003+A1:2010**Machines voor voedselbereiding - Cirkelzaagmachines - Veiligheids- en hygiëne-eisen**

This European Standard specifies requirements for the design and manufacturing of circular saw machines. The machines covered by this European Standard are used to cut bone and meat. The circular saw machines covered by this European Standard do not include circular saw machines for processing of wood and similar materials and the requirements of EN 1870-1 do not apply. Circular saw machines for domestic use are not included in this European Standard. This European Standard applies only to machines which are manufactured after the date of issue of this European Standard. This European Standard covers the following types of machines: Circular saw machines with a feed table and a fixed product pusher - The distance "A" from the floor to the top surface of the feed table is from 800 mm to 1050 mm. The saw blade diameter is between 350 mm and 400 mm. - Circular saw machines installed in a cutting line (e.g. conveyor belt or roller conveyor), e.g. with a protective component which can be lifted on the feed and discharge side. The saw blade diameter is between 350 mm and 400 mm

Type C 2006/42/EG Geverifieerd

NEN-EN 12267:2003+A1:2010 en € 61.30

NEN-EN 12268:2014**Machines voor voedselbereiding - Lintzaagmachines - Veiligheids- en hygiëne-eisen**

NEN-EN 12268 specifies requirements for the design and manufacturing of band saw machines as described in 1.2 (see Figures 1 to 5). The machines covered by this European Standard are used to cut: - bones; - fresh or deep frozen meat with or without bones; - fresh or deep frozen fish, natural or in fillets; - deep frozen block food products; - fresh or deep frozen vegetables; - other products such as pork fat or similar products. The band saw machines covered by this European Standard do not include band saw machines for processing wood and similar materials which are covered by the EN 1807 series.

Type C 2006/42/EG Geverifieerd

NEN-EN 12268:2014 en € 74.30

NEN-EN 12331:2015**Machines voor voedselbereiding - Gehaktmolens - Veiligheids- en hygiëne-eisen**

NEN-EN 12331 specifies requirements for the design and manufacture of mincing machines (see Figures 1a and 1b) used in a stationary position. The machines covered by this European Standard are used for size reduction of fresh or frozen meat, meat products and fish (hereinafter referred to as product) by cutting in a set of cutting tools. Mincing machines for domestic uses are not included in this European Standard. Filling mincers are covered by EN 12463 "Food processing machinery - Filling machines and auxiliary machines - Safety and hygiene requirements". This European Standard applies only to machines that are manufactured after the date of issue of this European Standard. Mincing machines in connection with using a hold-to-run foot switch are not covered by this European Standard. This European Standard covers: - mincing machines used in shops and preparation rooms; - mincing machines used in kitchens where sausages are prepared; - mincing machines used industrially; - accessories. The extent to which hazards are covered, is indicated in this European Standard. For other hazards which are not covered by this European Standard, machinery should comply with EN ISO 12100:2010 where applicable. This European Standard is not dealing with specific requirements for the control of mincing machines with foot switch.

Type C

NEN-EN 12331:2015 en € 74.30

NEN-EN 12355:2003+A1:2010**Machines voor voedselbereiding - Ontzwoerd-, ontvel- en ontvliestromen - Veiligheids- en hygiëne-eisen**

This European Standard applies to design, manufacturing, installation, transportation, electrical equipment and cleaning of derinding-, skinning -, and membrane removal machines. The machines described in this standard are used for derinding-, skinning- and membrane removal of meat and fish by cutting at a blade device. Derinding-, skinning-, and membrane removal machines for domestic purposes and table-top machines are not covered by this standard. This European Standard relates to: - derinding machines with tooth roll, hold down roller and blade device; - skinning- and membrane removal machines with transport- and stripper roll as well as a blade device." This standard only applies to machines which are manufactured after the date of issue of this standard. This standard covers the following types of machinesOpen derinding machines with infeed table and a distance between the floor and the surface of the infeed table from 800 mm to 1050 mm. Tooth form of the tooth roll: Depth = 5,0 mm Pitch = 6,5 mm

Type C 2006/42/EG Geverifieerd

NEN-EN 12355:2003+A1:2010 en € 74.30

NEN-EN 12463:2014**Machines voor de voedselbereiding - Vulmachines en bijbehorende machines - Veiligheids- en hygiëne-eisen**

NEN-EN 12463 applies for: - filling machines with cylinder with piston, - filling machines with feed intake hopper with and without loading device, - auxiliary machines for filling machines. This European Standard does not apply to filling machines with cylinder and manual operation. This European Standard applies to machines which process pasty or slightly frozen products (e.g. meat, cheese), excluding dry or deep frozen materials. They pump foodstuff into casings or bring it to a subsequent process. This European Standard also applies to the combinable appliances or auxiliary machines with which a wide range of additional functions can be implemented, for example: portioning, depositing, mincing, coextruding, dividing and forming. This European Standard deals with all significant hazards, hazardous situations and events relevant to filling machines, fitting appliances and auxiliary machines, such as twisting and hanging devices, mincing devices, forming devices, etc., when they are used as intended and under the conditions foreseen by the manufacturer and also the reasonable foreseeable misuse (see Clause 4). These significant hazards, hazardous situations and events exist during the whole life of filling machines.

Type C

NEN-EN 12463:2014 en

€ 86.00

NEN-EN 12505:2000+A1:2009**Machines voor voedselbereiding - Centrifuges voor de verwerking van eetbare oliën en vetten - Veiligheids- en hygiëne-eisen**

This European Standard covers all significant hazards as identified by risk assessment (see EN 1050), which are listed in clause 4 of this standard, relevant to centrifuges for processing edible oils and fats, when they are used as intended and under the conditions foreseen by the manufacturer. It specifies safety and hygiene requirements for the design, manufacture, use, maintenance and cleaning of centrifugal machines. The normal operating methods are described in 3.2. This standard does not apply to machines using solvent extraction and ancillary machines (e.g. conveyors, hoppers, etc.). It is not applicable to basket centrifuges. This European Standard is applicable primarily to machines which are manufactured after the date of approval by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12505:2000+A1:2009 en

€ 74.30

NEN-EN 12852:2001+A1:2010**Machines voor voedselbereiding - Verticale snijmachines en mengers - Veiligheids- en hygiëne eisen**

This European Standard specifies the safety and hygiene requirements for the design and manufacture of food processors and blenders. It applies to food processors and blenders having a bowl which is stationary while the food is being processed. The total volume of the bowl is less than or equal to 150 l. The machines covered by this standard are intended to carry out various types of operations such as: mincing, mixing, blending, whipping, using a large number of products and raw materials, and which are used in food and catering industries such as restaurants, hotels, coffee shops and pubs. This European Standard specifies all significant hazards, hazardous situations and events relevant to food processors and blenders, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during commissioning, operation, cleaning, removal of food blockages, feeding, changing the tools, maintenance and decommissioning of the machine. Small machines called "shakers" which are dedicated to blending liquid, with an impellor, usually driven from above are excluded.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12852:2001+A1:2010 en

€ 74.30

NEN-EN 12853:2001+A1:2010**Machines voor voedselbereiding - Handmixers en handmengers - Veiligheids- en hygiëne-eisen**

This European Standard specifies the safety and hygiene requirements for the design and manufacture of hand-held blenders and whisks used in the commercial and institutional catering, and in food shops. The term "hand-held blenders" is used to refer to the equipment covered by this standard. The machines covered by this standard are hand-held appliances whose tool is intended to process a foodstuff in a container. Tools are designed to crush, mix, mash, emulsify, etc. foodstuffs such as vegetables into soups, mashes, purees, sauces, mayonnaise, cream, dairy products and more generally to process all solid, liquid, pasty or powdery foodstuffs to obtain a homogeneous fluid. These appliances are designed to process up to 100 l of food in one operation. This standard applies to the following machines, according to their weight and to the operating modes required by their intended use: - manually operated machines, using one or both hands, actuated throughout the whole operation (see figure 1); - machines operating resting on the bottom of the container (see figure 2); - machines fixed to or placed on a special support which can be fitted to the container (see figure 3). The support acts as a substitute for the operator for operations that take a long time or for food processing which may present risks of burns (steam or splashes).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12853:2001+A1:2010 en

€ 61.30

NEN-EN 12853:2001+A1:2010/C1:2010**Machines voor voedselbereiding - Handmixers en handmengers - Veiligheids- en hygiëne eisen**

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12853:2001+A1:2010/C1:2010 en

€ 0.00

NEN-EN 12854:2003+A1:2010**Machines voor voedselbereiding - Verrijdbare verticale staafmixers - Veiligheids- en hygiëne-eisen**

This European standard specifies the safety and hygiene requirements for the design and manufacture of beam mixers. Beam mixers are used in the catering industry for the preparation of mixture or emulsion, directly in the cooking pan, such as for: puree, mayonnaise, sauces, soups, compotes. This European Standard deals with the hazards which can arise during commissioning, operation, cleaning, removal of food blockages, feeding, changing the tools, maintenance and decommissioning of the machine. This European Standard deals with all significant hazards, hazardous situations and events relevant to beam mixers, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12854:2003+A1:2010 en

€ 74.30

NEN-EN 12855:2003+A1:2010**Machines voor voedselbereiding - Roterende komsnijder - Veiligheids- en hygiëne-eisen**

This European Standard specifies requirements for bowl cutters used when stationary and positioned on the floor or at table height. Bowl cutters are food machines used to process fresh or frozen meat, meat products, fish and vegetables in a rotating bowl. This is performed by means of vertical blades rotating around a nearly horizontal axis. !This European Standard deals with all significant hazards, hazardous situations and events relevant to rotating bowl cutters, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer . This European Standard specifies the hazards which can arise during commissioning, operation, cleaning, use, maintenance and decommissioning of the machine. This standard only applies to machines which are manufactured after the date of issue of this standard. This standard covers the following types of bowl cutters according to the diameter (D) or the volume (V) of the bowl: Type 1 bowl cutters D < 700 mm or 2 l = V = 30 l Type 2 bowl cutters 700 mm < D < 1 200 mm or 30 l < V = 120 l Type 3 bowl cutters D > 1 200 mm or V > 120 l For type 2 and type 3 bowl cutters, loading devices are also covered in this standard. Bowl cutters are constructed, for example, from a machine frame, a bowl, a set of cutting blades, a blade shaft, a blade cover, a noise cover, a loading and removal device, an associated drive and electrical, hydraulic and pneumatic components and also components for fumigating, vacuuming, heating and cooling according to machine type.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12855:2003+A1:2010 en

€ 74.30

NEN-EN 12984:2005+A1:2010**Machines voor voedselbereiding - Draagbare en/of met de hand bediende machines en apparaten met mechanisch aangedreven snijwerk具n - Veiligheids- en hygiëne-eisen**

This European Standard covers portable and/or hand-guided machines and appliances equipped with mechanically driven cutting tools. This European Standard specifies requirements for the design and manufacture of portable and/or handguided machines and appliances equipped with electrically, hydraulically or pneumatically driven cutting tools (see Figures 1 to 9), hereinafter referred to as "machines". The machines covered by this European Standard are used for slaughtering animals, for cutting up animal carcasses, poultry and other foodstuff such as e.g. fish. They are mainly intended for use in slaughterhouses and rooms, which are used for cutting and preparing. These machines are used for the industry and trade. This European Standard specifies all significant hazards, hazardous situations and events relevant to the machines in the scope, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4)." This European Standard deals with the hazards which can arise during commissioning, operation, maintenance and de-commissioning of the machine. This European Standard is not applicable to portable and/or hand-guided machines and appliances equipped with electrically, hydraulically or pneumatically driven cutting tools, which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 12984:2005+A1:2010 en

€ 61.30

NEN-EN 13208:2003+A1:2010**Machines voor voedselbereiding - Groentenschillers - Veiligheids- en hygiëne-eisen**

This European standard specifies the safety and hygiene requirements for the design and manufacture of vegetable peelers used in the commercial and institutional catering industry, and in food shops. The machines concerned by this standard are designed to peel different sorts of vegetables and tubers such as potatoes, carrots, salsify, turnips, celery and onions. The standard is limited to machines where the maximum capacity is 50 kg. The machines are not intended to be moved during operation. The rotating plate mixes the product under appropriate conditions so that the desired operation is carried out on the entire load. This operation can be: - the abrading of the surface of the vegetable or tuber; - the cutting of fine particles of skin if the fitting is of the blade-type; - grating, an operation which is similar to abrading; - scraping or cleaning with a brush, rubber coating or cast iron surface. Machines subject to this standard use water circulation to carry waste to the waste outlet. The underside of the plate is sometimes designed with raised parts which speed up the discharge of the waste water. !This European Standard deals with the hazards which can arise during commissioning, operation, cleaning, removal of food blockages, feeding, changing the tools, maintenance and decommissioning of the machine." Machines covered by this standard are not intended to be cleaned by high pressure water jets.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13208:2003+A1:2010 en

€ 74.30

NEN-EN 13288:2005+A1:2010**Machines voor voedselbereiding - Til- en kipmachines voor pannen - Veiligheids- en hygiëne-eisen**

This European Standard specifies safety and hygiene requirements for the design, installation, operation and maintenance of lifting and tilting machines used, in bakeries, for lifting and/or tilting a container or a machine with non removable bowl containing dough or pastry and for tipping the contents at the top end of the stroke. The lifting and tilting machines can be stationary or movable and are designed for semi-manufactured products (mixtures of flour, water and other ingredients) or raw material (flour, mixtures etc.). The direction of lifting can be vertical, inclined or combined and follows a track fixed by mechanical guides, or articulated arms. This European Standard deals with the significant hazards, hazardous situations and events relevant to lifting and tilting machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4)." This European Standard does not deal with the hazards due to the mixing or other function of the bowl (for dough mixers see EN 453). The following machines are excluded: - experimental and testing machines under development by the manufacturer; - domestic appliances; - automatic mobile equipment, for example bucket trucks; - lift trucks; - automatic devices working in automatic production lines (where the initiation of the movement is not due to an human action). This European Standard does not deal with powered equipment that may be provided to assist the mobility of mobile bowl lifting and tilting machines." When drafting this European Standard, it has been assumed that the machines are not intended to be cleaned with a water jet. Noise is not considered to be a significant hazard by lifting and tilting machines for bakery. This does not mean that the manufacturer of the machine is absolved from reducing noise and making a noise declaration. A noise test code is therefore given in Annex A. This European Standard is not applicable to lifting and tilting machines for bakery which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13288:2005+A1:2010 en

€ 74.30

NEN-EN 13289 Ontw.**Machines voor deegbereiding - Drogers en koelers - Veiligheids- en hygiëne-eisen**

This draft European Standard applies to shaker pre-dryers, belt dryers, rotary dryers, nest pasta dryers, long pasta dryers and coolers (see Clause 3), used in continuous pasta processing plants able to produce more than 100 kg/h. This draft European Standard specifies the safety requirements for the design, manufacture and information for use for the machines mentioned above, known with the name of dryers and coolers, classified as stationary units which cannot be moved when in operation. This draft European Standard is not applicable to dryers and coolers, static or semiautomatic requiring manual loading as well as those for special application (i.e. experimental dryers). Dryers in a pasta plant are machines which reduce moisture by means of warm air ventilation. In the drying process the use of a cooler might be necessary in order to reduce the temperature, maintaining constant the correct moisture of the pasta. The cooling can be obtained in the dryer or in a separate similar machine. The significant hazards covered by this standard are listed in Clause 4. These hazards, as well as the measures for their reduction, are described in the present draft European Standard Ancillary equipment which is not an integral part of the machinery (e.g. hoppers, conveyors, equipment used to produce hot or cold fluids, etc.) is not covered by this draft European Standard. This draft European Standard is not applicable to machines in its scope which are manufactured before the date of its publication as EN.

Type C

NEN-EN 13289:2015 Ontw. en

€ 35.70

NEN-EN 13289:2001+A1:2013**Machines voor deegbereiding - Drogers en koelers - Veiligheids- en hygiëne-eisen**

This European Standard applies to shaker pre-dryers, belt dryers, rotary dryers, nest pasta dryers, long pasta dryers and coolers (see clause 3), used in continuous pasta processing plants able to produce more than 100 kg/h. This European Standard specifies the safety requirements for the design, manufacture and information for use for the machines mentioned above, known with the name of dryers and coolers, classified as stationary units which cannot be moved when in operation. This European Standard is not applicable to dryers and coolers, static or semiautomatic requiring manual loading as well as those for special application (i.e. experimental dryers). Dryers in a pasta plant are machines which reduce moisture by means of warm air ventilation. In the drying process the use of a cooler might be necessary in order to reduce the temperature, maintaining constant the correct moisture of the pasta. The cooling can be obtained in the dryer or in a separate similar machine. The significant hazards covered by this standard are listed in clause 4. These hazards, as well as the measures for their reduction, are described in the present European Standard Ancillary equipment, which is not an integral part of the machinery (e.g. hoppers, conveyors, equipment used to produce hot or cold fluids, etc), is not covered by this European Standard. This European Standard is not applicable to machines in its scope which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13289:2001+A1:2013 en

€ 74.30

NEN-EN 13378 Ontw.**Machines voor deegbereiding - Deegpersen - Veiligheids- en hygiëne-eisen**

This European Standard applies to pasta presses (see Clause 3) used for continuous pasta production. This European Standard specifies the safety requirements for the design, manufacture and information for use for continuous pasta presses and deals with all significant hazards, hazardous situations, and events when the machines falling within the scope of this standard are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It deals with the hazards during the following phases of the machines' lifetime: transport, assembly and installation, commissioning, setting and adjusting, operation, cleaning, fault finding, maintenance, decommissioning, dismantling, disabling and scrapping. The measures for risk reduction are given in Clause 5. This European Standard does not apply to: - household machines, - batch machines, - cutting unit. The significant hazards covered by this standard are listed in Clause 4. These hazards, as well as the measures for their reduction, are described in the present European Standard. Ancillary equipment which is not an integral part of the continuous pasta press (e.g. hoppers, conveyors, etc.) is not covered by this European Standard. This European Standard is not applicable to machines in its scope which are manufactured before the date of its publication as EN.

Type C

NEN-EN 13378:2016 Ontw. en

€ 35.70

NEN-EN 13378:2001+A1:2013**Machines voor deegbereiding - Deegpersen - Veiligheids- en hygiëne-eisen**

This European Standard specifies the safety requirements for the design, manufacture and information for safe use of pasta presses (see clause 3) used in continuous automatic pasta processing plants able to produce more than 100 kg/h. This European Standard specifies the safety requirements for the design, manufacture and information for use for the machines mentioned above, known with the name of presses, classified as stationary units which cannot be moved when in operation. The pasta press begins with the dosing unit and ends with the die. The press includes the following processes: - dosing solid and liquid ingredients, - mixing the ingredients, - extruding the dough, - forming the dough. Cutting unit is excluded. This European Standard does not apply to: - household machines, - batch machines. The significant hazards covered by this standard are listed in clause 4. These hazards, as well as the measures for their reduction, are described in the present European Standard Ancillary equipment, which is not an integral part of the press (e.g. hoppers, conveyors, etc), is not covered by this European Standard. This European Standard is not applicable to machines in its scope which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13378:2001+A1:2013 en

€ 61.30

NEN-EN 13379:2001+A1:2013**Machines voor deegbereiding - Strooi-, afstreep- en snijmachine, staafretourtransportband, staafmagazijn - Veiligheids- en hygiëne-eisen**

This European Standard applies to spreader, stripping and cutting machine, as well as the stick return conveyor and the stick magazine (see clause 3), used in continuous pasta processing plants able to produce more than 100 kg/h. This European standard specifies the safety requirements for the design, manufacture and information for safe use of spreader, stripping and cutting machine, as well as the stick return conveyor and the stick magazine classified as stationary units which cannot be moved when in operation. This European Standard does not apply to: - household machines, - semiautomatic machines, so called "batch machines" requiring manual loading. The significant hazards covered by this standard are listed in clause 4. These hazards and the measures for their reduction are described in the present European Standard. Ancillary equipment, which is not an integral part of the machinery (e.g. hoppers), is not covered by this European Standard. This European Standard is not applicable to machines in its scope which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13379:2001+A1:2013 en

€ 74.30

NEN-EN 13389:2005+A1:2010**Machines voor voedselbereiding - Mengers met horizontale assen - Eisen voor veiligheid en hygiëne**

This European Standard specifies requirements for the design, transport, installation, operation and maintenance of batch production fixed or tilting horizontal bowl type mixers with one or two rotating shafts with or without movable blades. These mixers are used to mix, knead and homogenise food for animal or human consumption in powder, paste or liquid form. The mixers can be floor mounted or transportable (with or without castors). They are intended to be used when stationary." These machines are used in feed mills and factories which produce, work on or process foodstuff, for example biscuits, bread, chocolate, cereal products. This European Standard does not deal with the use of the machine in potentially explosive atmospheres. This European Standard deals with the significant hazards, hazardous situations and events relevant to mixers with horizontal shafts, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard also specifies food hygiene requirements. The feeding equipment, the dosing equipment, and the requirements of equipment for the supply of inert gases, and for heating and cooling, are excluded from the scope of this European Standard. The hazards due to the unloading equipment (container, discharge belt, etc.) are not dealt with in this European Standard. When drafting this European Standard, it has been assumed that the machines are not intended to be cleaned with a water jet. This European Standard is not applicable to mixers with horizontal shafts which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13389:2005+A1:2010 en

€ 74.30

NEN-EN 13390:2002+A1:2010**Machines voor voedselbereiding - Machines voor de bereiding van taarten en vlaaien - Veiligheids- en hygiëne-eisen**

This standard specifies safety and hygienic design requirements for the manufacture of machines used for the production of pies, tarts, pasties, en croute products and other similar items where the pastry cases are formed by the closing under pressure of one or more forming heads. The standard applies to the following three basic types of machine: - machines where operators hands enter hazard zone 1 at each cycle; - machines which are loaded outside hazard zone 1; - automatic machines. Figure 1, 2 and 3 illustrate examples of these. Automatic loading devices are not covered by this standard. This standard applies to electrically, pneumatically and hydraulically powered machines. Manually operated machines are excluded from the scope of this standard. This standard covers the technical safety requirements for the transport, installation, operation, cleaning and maintenance of these machines (see 5.2 and 5.3 of EN ISO 12100-1:2003). This standard deals with all significant hazards, hazardous situations and events relevant to pie and tart machines, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Flour dust is not a significant hazard at pie and tart machines. A noise test code is included in annex B to assist manufacturers to measure noise level for the purpose of the noise emission declaration. This document is not applicable to pie and tart machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 13390:2002+A1:2010 en

€ 74.30

NEN-EN 13534:2006+A1:2010

Machines voor voedselbereiding - Pekelinjectiemachine - Eisen voor veiligheid en hygiëne

This standard applies for - curing injection machines with infeed and outfeed devices; - curing injection machines with infeed and outfeed devices and loading devices. This standard does not apply to portable/hand guided curing injection devices. This document deals with all significant hazards, hazardous situations and events relevant to curing injection machinery when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13534:2006+A1:2010 en

€ 74.30

NEN-EN 13570:2005+A1:2010

Machines voor voedselbereiding - Mengmachines - Eisen voor veiligheid en hygiëne

This European Standard specifies safety and hygiene requirements to minimise the hazards which can arise during the commissioning, the use and the maintenance of mixing machines and their accessories intended to be used in sausage kitchens and industrial operations. This European Standard deals with all significant hazards, hazardous situations and events relevant to mixing machines, when they are used !as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This European standard is not applicable to mixing machines which are manufactured before the date of publication of this European Standard by CEN. This European Standard covers the following types of mixing machines: - Mixing machines with a tilting container, one or several mixing shafts - Mixing machines with a stationary mixing container, front face or bottom discharge opening - Mixing machines with a container and loading device - Mixing machines with a container, mixing shaft(s), screw conveyor and loading device The mixing machines are constructed of a machine frame, a trough-shaped mixing container, one or several mixing shafts, an associated drive and electrical, hydraulic and pneumatic components, depending on machine type. The mixing shaft can be equipped with wings, screws, rods, paddles or the like. Mixing machines may be equipped e. g. with - cover over the top of the mixing container, - pipe connections for gases, steam, water or vacuum, protective hood over the front face discharge opening, - lifting devices for mixing shaft, - loading device, - screw conveyor at the discharge opening.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13570:2005+A1:2010 en

€ 74.30

NEN-EN 13591:2005+A1:2010

Machines voor voedselbereiding - Laadinrichtingen voor ovens met een vaste vloer - Eisen voor veiligheid en hygiëne

This European Standard applies to the design and manufacture of fixed deck oven loaders used in the food industry, bakeries, pastry-making, etc. These machines are used to place dough pieces on each deck of fixed deck ovens and to remove the baked products from each deck. This equipment may be: - manual; - semi-automatic (some movements powered, some movements requiring manual power). The European Standard covers technical safety and hygiene requirements for the design, installation, adjustment, operating, cleaning and maintenance of this equipment. This European Standard deals with the significant hazards, hazardous situations and events relevant to fixed oven deck loaders, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). Noise from fixed deck oven loaders is not considered to be a significant hazard. That does not mean that the manufacturer of the machine is absolved from reducing noise and making a noise declaration. Therefore a noise test code is given in Annex A. The following equipment are excluded: - experimental equipment and equipment under development by the manufacturer; - loaders for conveyor ovens; - loaders integral to the oven; - fully automated fixed deck oven loaders. This European Standard is not applicable to fixed deck oven loaders that are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13591:2005+A1:2010 en

€ 74.30

NEN-EN 13621:2004+A1:2010

Machines voor voedselbereiding - Sladrollers - Eisen voor veiligheid en hygiëne

This document specifies the safety and hygiene requirements for the design and manufacture of salad dryers taking account of installation, cleaning, removal of jammed food, feeding, maintenance and decommissioning. The spinning function is obtained by the rotation of a perforated basket in which the product being processed is placed. It applies to machines: - which are intended for use in the commercial and institutional catering industry; - having a rotation speed between 300 rpm and 900 rpm; - having a nominal output below 2 kW; - having a nominal volume of the basket less than 100 l. These machines can be stationary or movable. The machines concerned by this document are those appliances which are intended for eliminating by spinning the water present on salad after washing. These machines can also be used for spinning other vegetables such as spinach, watercress, radish, French beans, etc. The machines covered by this document are not intended to be cleaned with water jet. This European Standard deals with all significant hazards, hazardous situations and events relevant to salad dryers, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). The feeding principle of the machine can be notably: - manual loading into the basket left in position in the machine; - placing in and withdrawal from the machine of the loaded basket. Noise is not considered to be a significant hazard with salad dryers. This does not mean that the manufacturer of these machines is absolved from reducing noise and making a noise declaration. Therefore a noise test code is proposed in Annex A. Vibrations are not considered as a hazard with these machines. This document is not applicable to the machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13621:2004+A1:2010 en

€ 74.30

NEN-EN 13732:2013**Machines voor voedselverwerking - Melkkoeltanks voor de boerderij - Eisen voor prestatie, veiligheid en hygiëne**

This European Standard specifies requirements for design, performance, safety and hygiene of refrigerated bulk milk coolers and the related methods of test. This standard deals with all significant hazards, hazardous situations and events relevant to bulk milk coolers on farms, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It applies to refrigerated bulk milk tanks with air cooled condensing units and automatic control intended for installation on farms or at milk collecting points. It applies to tanks for two milkings (24 h), four milkings (48 h) and six milkings (72 h), in which the cooling takes place totally (non-pre-cooled milk) or partially (in case of pre-cooled milk) within the tank. Performance requirements in 5.5.1.2.1 and 5.5.1.2.2 do not apply to tanks in combination with instant cooling or in association with a continuous system of milking (e.g. milking with robot).

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13732:2013 en

€ 98.50

NEN-EN 13870:2015**Machines voor de voedselbereiding - Portioneermachines - Veiligheids- en hygiëne-eisen**

NEN-EN 13870 covers portion cutting machines and accessories. This European Standard does not apply to automatic industrial slicing machines (see prEN 16743) and band saw machines (see EN 12268). This European Standard defines requirements for the design and manufacture of portion cutting machines. The machines covered by this European Standard are used for continuous portioning of fresh, smoked or frozen meat with and without bones or of similar products by separation by means of a blade. This European Standard deals with all significant hazards, hazardous situations and events relevant to machines, appliances and machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during commissioning, operation, maintenance and decommissioning of the machine. The European Standard does not deal with the specific hazards of loading devices. This European Standard is not applicable to portion cutting machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13870:2015 en

€ 74.30

NEN-EN 13871:2015**Machines voor voedselbereiding - Machines voor snijden van blokjes - Eisen voor de veiligheid en hygiëne**

NEN-EN 13871 covers cube cutting machines (see Figure 1 to Figure 6 and Figure 12 to Figure 18) and specifies requirements for the design and manufacture. The machines covered by this European Standard are used to size reduce fresh meat, meat products and products of the same kind (e.g. fish, vegetables and cheese) by cutting in a cutting chamber. This European Standard deals with all significant hazards, hazardous situations and events relevant to machines, appliances and machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during all the lifetime of the machine, including the phases of transport, assembly, operation, maintenance, dismantling, disabling and scrapping of the machine. This European Standard is not applicable to cubes cutting machines which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13871:2015 en

€ 86.00

NEN-EN 13885:2005+A1:2010**Machines voor voedselbereiding - Clipmachines - Eisen voor veiligheid en hygiëne**

This European Standard specifies safety and hygiene requirements to minimise the hazards which can arise during the commissioning, the use and the maintenance of clipping machines for portioning and closing of casings filled with foodstuffs, and intended to be used in butcheries, meat processing factories, main kitchens and other food processing factories. This European Standard deals with all significant hazards, hazardous situations and events relevant to clipping machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer". This European Standard is not applicable to clipping machines which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13885:2005+A1:2010 en

€ 74.30

NEN-EN 13886:2005+A1:2010**Machines voor voedselbereiding - Kookpannen met aangedreven roerstaaf en/of mixer - Veiligheid en hygiëne-eisen**

This document specifies the safety and hygiene requirements for the design and manufacture of cooking kettles equipped with powered stirrer and/or mixer taking account of installation, operation, cleaning, removal of jammed food, feeding, maintenance and changing the tools. The cooking kettles equipped with powered stirrer and/or mixer are used from catering to small scale-food industry to cook, cool and mix all cold or hot food. They permit addition of ingredients during processing without stopping the machine. This document covers cooking kettles equipped with powered stirrer and/or mixer having technical performances in accordance with the following: thermal energy supply can be electricity, gas (see EN 125 and EN 161), steam or heat-conducting fluid; capacity of the kettle: from 30 l to 600 l (nominal volume); maximum power rating 80 kW; speed of the powered stirrer: 10 rpm to 200 rpm; maximum speed of the mixer: 3 000 rpm. The machines covered by this document are not intended to be cleaned with a high pressure water jet.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 13886:2005+A1:2010 en

€ 74.30

NEN-EN 13954:2005+A1:2010**Machines voor voedselbereiding - Broodsnijders - Veiligheids- en hygiëne-eisen**

This European Standard specifies safety and hygiene requirements for the design and manufacture of bread slicing machines of type 1 and 2 as defined in Clause 3. The intended use of these machines is to cut baked bread into slices. This European Standard deals with all significant hazards, hazardous situations and events relevant to bread slicers machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard covers requirements for the safe operation of the machine including: loading, cutting, unloading, cleaning, crumb removal and maintenance. These machines can be manually or automatically operated. The following machines are excluded from the scope of this document: - experimental and testing machines under development by the manufacturer; - frame cutter machines with multiple blades moving horizontally; - domestic appliances and machines intended for use by the general public; - machines with horizontal circular cutting systems; - rectangular cutting machines for cutting or sawing of panel size products into small pieces. The significant hazards covered by this document are described in Clause 4. In drafting this European Standard, it has been assumed that the bread slicers falling within the scope are operated only by trained personnel and that the machines are not intended to be cleaned with water jet. This European Standard is not applicable to bread slicing machines which are manufactured before the date of publication of this European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 13954:2005+A1:2010 en

€ 74.30

NEN-EN 14655:2005+A1:2010**Machines voor voedselbereiding - Baguettesnijders - Veiligheids- en hygiënevoorschriften**

This European Standard specifies safety and hygiene requirements for the design and manufacture of baguette slicers used in catering by adults, taking account of installation, cleaning, operating, maintenance and decommissioning. The intended use of these machines is to cut baguette and similar types of long bread sticks, into slices. This European Standard covers requirements for the safe operation of the machine including: loading, cutting, unloading, cleaning, crumb removal and maintenance. These machines have a crescent blade fixed to a shaft, with a rotating movement and vertical manual loading. These machines are intended to be installed on a table, a specific support or an integral stand. The following machines are excluded from the scope of this European Standard: frame cutter machines with multiple blades1); machines with rotary crescent (sickle) or circular blade fixed to a shaft with oscillating movement and horizontal manual loading1); experimental and testing machines under development by the manufacturer; domestic appliances. This European Standard deals with all significant hazards, hazardous situations and events relevant to baguette slicers, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). Noise is not considered to be a significant hazard. A noise test code is given in Annex A. This European Standard does not deal with noise reduction. This European Standard is not applicable to baguette slicers which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 14655:2005+A1:2010 en

€ 74.30

NEN-EN 14957:2006+A1:2010**Machines voor voedselbereiding - Vaatwasmachines met transportband - Veiligheids- en hygiëne-eisen**

This European Standard applies to multizones dishwashing-machines with passing through motorized belt (flight type) or rack conveyor. In case of flight type, the loading and unloading areas are part of the machine. The machines covered by this European Standard are intended for washing, rinsing and optionally drying the dishes and the kitchen utensils, used in food and catering premises such as restaurants, hotels etc. This European Standard applies to dishwashing machines with conveyor with a linear speed less than or equal to 5 m/min for the dishes and kitchen utensils.

Type C 2006/42/EG Geverifieerd

NEN-EN 14957:2006+A1:2010 en

€ 61.30

NEN-EN 14958:2006+A1:2009**Machines voor voedselbereiding - Machines voor het malen en bewerken van meel en griesmeel - Veiligheid en hygiëne-eisen**

This European Standard deals with the significant hazards, hazardous situations and events relevant to the following machinery for grinding and processing of flour and semolina, as defined in Clause 3: roller mills, plan sifters and rotary separators, air classifiers, rotating machines and impact machines. The machines in the scope are stationery (not intended to be moved when in operation), have a capacity of at least 100 kg/h, and are intended for use in installations for grain processing, such as flour mills, semolina mills, grain cleaning and flaking plants. This European Standard deals with the significant hazards during commissioning, operation, cleaning and maintenance of the machines in the scope when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

Type C 2006/42/EG Geverifieerd

NEN-EN 14958:2006+A1:2009 en

€ 86.00

NEN-EN 15165:2014**Machines voor voedselbereiding - Vormmachines - Eisen voor veiligheid en hygiëne**

NEN-EN 15165 applies to forming machines, used for forming food products with a mould into portions, as defined in 1.2. This document applies to both machines standing on the floor and table top machines, and also to machines integrated in a processing line (i.e. interfaces, when the machine is combined with other machines). This European Standard covers the following auxiliary devices and interchangeable equipment: a) auxiliary devices: 1) paper interleavers; 2) croquette attachment; 3) meat ball rollers; 4) stick inserters; 5) specific material/product conveyors; 6) specific lifting and tilting devices. b) interchangeable equipment: 1) croquette attachment; 2) meat ball rollers; 3) stick inserters; 4) specific material/product conveyors; 5) specific lifting and tilting devices. This European Standard deals with all significant hazards, hazardous situations and events relevant to forming machines, when they are used as intended and under conditions of misuse which are reasonable foreseeable by the manufacturer (see Clause 4). This European Standard deals with the significant hazards, hazardous situations and events arising during the whole lifetime of the machine, including the phases of transport, assembly and installation, commissioning, maintenance, dismantling, disabling and scrapping and use as defined in EN ISO 12100:2010, 5.4. This European Standard is not applicable to forming machines which are manufactured before the date of publication of this document by CEN.

Type C

NEN-EN 15165:2014 en

€ 74.30

NEN-EN 15166:2009**Machines voor voedselbereiding - Machines voor het automatisch splitsen van de achterzijde van karkassen - Eisen voor veiligheid en hygiëne**

This European Standard applies to automatic back splitting machines and specifies safety and health requirements for machines used in slaughterhouses in order to fully automatically split meat animal (beef and pork) along the back-bone axis, splitting the carcass into two parts (see Figure 1). This document deals with all significant hazards, hazardous situations and events relevant to automatic back splitting machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This document deals with the significant hazards, hazardous situations and events during transport, assembly and installation, commissioning and use as defined in EN ISO 12100-1:2003, 5.3. This document is not applicable to automatic back splitting machines, which are manufactured before the date of its publication as EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15166:2009 en

€ 74.30

NEN-EN 15180:2014**Machines voor voedselbereiding - Voedselopslag - Veiligheids- en hygiëne-eisen**

NEN-EN 15180 deals with all significant hazards, hazardous situations and events relevant to food depositors as defined in 1.2.2 to 1.2.6 and the equipment typically integrated into them, i.e. product pumps, product elevators, conveyors and indexing mechanisms, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the significant hazards, hazardous situations and events during transport, assembly and installation, commissioning, use and decommissioning as defined in EN ISO 12100. This European Standard is not applicable to the following machines: - auger depositors or auger fillers and gravimetric filling machines, safety requirements for these machines are contained in EN 415-3; - automatic dough dividers, safety requirements for these machines are contained in EN 12042; - filling machines for sausages, safety requirements for these machines are contained in EN 12463; - mincing machines, safety requirements for these machines are contained in EN 12331; - food depositors that are powered exclusively by manual effort. This document does not deal with the hazards related to the use of food depositors in a potentially explosive atmosphere. This European Standard is not applicable to food depositors that were manufactured before the date of its publication as a European Standard.

Type C

NEN-EN 15180:2014 en

€ 86.00

NEN-EN 15467:2014**Machines voor voedselbereiding - Schoonmaak- en fileermachines van vis - Veiligheids- en hygiëne-eisen**

NEN-EN 15467 specifies the safety and hygiene requirements for the design and construction of automatic fish heading and fish filleting machines, and using knives. This European Standard applies to machinery and equipment for the heading and filleting of fish in the fish processing industry. This European Standard deals with all significant hazards, hazardous situations, and events relevant to fish heading and filleting machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It deals with the hazards during the following phases of the intended use: assembly and installation, commissioning, setting and adjusting, operation, cleaning, fault finding, and maintenance. When drawing up this European Standard, the following assumptions were made: - only trained adult persons operate the machines; - the machines are used in workplaces with an illumination level that can be reasonably expected in such places. This European Standard is not applicable to fish heading and filleting machines that are manufactured before the date of its publication as an EN.

Type C

NEN-EN 15467:2014 en

€ 61.30

NEN-EN 15774:2010

Machines voor voedselbereiding - Machines voor het bereiden van verse en gevulde pasta (tagliatelle, cannelloni, ravioli, tortellini, orecchiette en gnocchi) - Veiligheids- en hygiëne-eisen

This European Standard applies to machines for the processing of fresh and filled pasta, by mixing, kneading, dough sheet forming, pasta forming and pasteurizing, as described in Clause 3. It applies to stationary and movable machines (not intended to be moved during operation), with a nominal capacity of not less than 25 kg/h. This European Standard deals with all significant hazards, hazardous situations, and events when the machines falling within the scope of this standard are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It deals with the hazards during the following phases of the machines' lifetime: transport, assembly and installation, commissioning, setting and adjusting, operation, cleaning, fault finding, maintenance, de-commissioning, dismantling, disabling and scrapping. This European Standard applies to the following groups of machines: - discontinuous manually loaded kneading machines with or without lifting and tilting devices; - continuous kneading machine; - combination of dough kneading and dough sheet forming machine; - forming machine processing one single dough sheet; - forming machine processing two dough sheets; - dough sheet forming machine; - sizing roller machine; - dough transport shuttle machine; - steam pasteurizer machine; - cooler machine; - dough sheet cutting machine; - gnocchi machine; - typical shapes pasta machine.

Type C

NEN-EN 15774:2010 en

€ 98.50

NEN-EN 15861:2012

Machines voor voedselbereiding - Rookinstallaties - Veiligheids- en hygiëne-eisen

This European Standard specifies safety and hygiene requirements for the design and manufacture of smokehouses for commercial use. The machines covered by this standard are used for the smoking of foodstuffs, especially meat, fish or similar products, as well as the connected heating and cooling processes. Smokehouses consist of the following elements: - Smoke chamber with equipment; - Air handling system; - Smoke generator; - Pipes and ducts; - Cleaning systems. This European Standard deals with all significant hazards, hazardous situations and events and hygiene requirements relevant to smokehouses when they are used as intended and under reasonably foreseeable conditions of misuse. This European Standard deals with the hazards which can arise during the whole life of smokehouses. This document is not applicable to smokehouses which are manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 15861:2012 en

€ 61.30

NEN-EN 16743:2016

Machines voor voedselbereiding - Automatische industriële snijmachines - Veiligheids- en hygiëne-eisen

NEN-EN 16743 specifies requirements relating to the design and construction of automatic industrial slicing machines and auxiliary components. The automatic industrial slicing machines covered by this standard are used for the cutting of meat and sausage products, cheese or other sliceable food products that can be cut using one or more blades. Automatic industrial slicing machines are designed to cut slices. A sickle blade or an eccentrically moving blade is used for cutting. As a rule, the product only moves along one axis during the cutting process. The auxiliary components covered by this standard are used for conveying slices from the cutting zone, for weighing or for sorting. This European Standard covers all the significant hazards, hazardous situations and hazardous events identified by means of risk assessment associated with automatic industrial slicing machines and auxiliary components if they are used in accordance with regulations and under the conditions of reasonably foreseeable misuse defined by the manufacturer (see Clause 4). This standard covers hazards which can arise during the commissioning, operation, cleaning, servicing and decommissioning of the machine. This standard only applies to automatic industrial slicing machines and auxiliary components that were manufactured after the date of publication of this standard. This standard applies to automatic industrial slicing machines and auxiliary components designed for industrial use. These are machines which are usually used in food processing facilities. The machines are normally permanently installed in one place. This standard does not apply to cutting machines with moving infeed slides, slicing machines that are used in for example shops, restaurants, supermarkets, canteens etc. and are already covered in EN 1974. This standard does not apply to portion cutting machines which are manufactured and put on the market in accordance with the requirements specified in EN 13870.

Type C 2006/42/EG Geverifieerd

NEN-EN 16743:2016 en

€ 74.30

NEN-EN 16876 Ontw.

Machines voor voedselbereiding - Softijsmachines - Veiligheids- en hygiëne-eisen

This European Standard applies to machines of handling and delivery of soft ice cream, frozen yogurt, milk shake machinery and other food products as chocolate and pastry, as described in Clause 3. The European Standard applies to fixed and movable machinery (not designed to be moved during operation), with a rated capacity of not more than 150 kg/h. This European Standard deals with all significant hazards, hazardous situations and events relevant to the machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during transport, assembly, commissioning, operation, cleaning, use, maintenance, decommissioning, dismantling, disabling and scrapping of the machine. This European Standard covers the following types of machines: - soft ice cream, frozen yogurt and milk shake machinery; This European Standard does not apply to equipment feeding and dosing, equipment, supply of inert gas and heating and cooling equipment and any extraction (container, extraction belt, etc.). This European Standard is not applicable to machines which are manufactured before the date of publication of this European Standard by CEN.

Type C

NEN-EN 16876:2015 Ontw. en

€ 35.70

NEN-EN 16878 Ontw.

Machines voor de voedselindustrie-gecombineerde machines en vriezers voor consumptie-ijs-Veiligheids- en hygienevereisten

This European Standard applies to machines of handling and delivery of ice cream mixes, pasty liquid products for gelato, pastry, chocolate and food processing, as described in Clause 3. The standard applies to fixed and movable machinery (not designed to be moved during operation), with a rated capacity of not more than 100 L. This European Standard deals with all significant hazards, hazardous situations and events relevant to the machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during transport, assembly, commissioning, operation, cleaning, use, maintenance, decommissioning, dismantling, disabling and scrapping of the machine. This European Standard covers the following types of machines: - combined machines (pasteurizers and batch freezer); - batch freezer. This European Standard does not apply to equipment feeding and dosing, equipment, supply of inert gas and heating and cooling equipment and any extraction (container, extraction belt etc.). This European Standard is not applicable to machines which are manufactured before the date of publication of this European Standard by CEN.

Type C

NEN-EN 16878:2015 Ontw. en

€ 35.70

NEN-EN 16881 Ontw.

Machines voor voedselbereiding - Pasteuriseerders, vaten en ovens - Veiligheids- en hygiëne-eisen

This European Standard applies to machines of ice cream mixes, pasty liquid products for gelato, pastry, chocolate and food processing, as described in Clause 3. The European Standard applies to fixed and movable artisan machinery (not designed to be moved during operation), with a rated capacity of not more than 600 l. This European Standard deals with all significant hazards, hazardous situations and events relevant to the machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during transport, assembly, commissioning, operation, cleaning, use, maintenance, decommissioning, dismantling, disabling and scrapping of the machine. This European Standard covers the following types of machines: - pasteurizers; - ageing vats; - cream cookers. This European Standard does not apply to equipment feeding and dosing, equipment, supply of inert gas and heating and cooling equipment and any extraction (container, extraction belt etc.). This European Standard is not applicable to cream cookers without cooling systems. This European Standard is not applicable to machines which are manufactured before the date of publication of this European Standard by CEN.

Type C

NEN-EN 16881:2015 Ontw. en

€ 35.70

NEN-EN 16888 Ontw.

Machines voor de voedselindustrie - Slagroomklopers - Veiligheids en hygienevereisten

This European Standard applies to machines for the preparation of whipped cream, mousse and aerated dessert, as described in Clause 3. The standard applies to machinery with suction of the product from internal or external tank. This European Standard deals with all significant hazards, hazardous situations and events relevant to the machinery, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard deals with the hazards which can arise during transport, assembly, commissioning, operation, cleaning, use, maintenance, decommissioning, dismantling, disabling and scrapping of the machine. This European Standard does not apply to equipment feeding and dosing, equipment, supply of inert gas and heating and cooling equipment and any extraction (container, extraction belt etc.). This European Standard is not applicable to machines which are manufactured before the date of publication of this European Standard by CEN.

Type C

NEN-EN 16888:2015 Ontw. en

€ 35.70

Vuilverwijderingsmachines**NEN-EN 1501-1:2011+A1:2015**

Afvalinzamelwagens - Algemene eisen en veiligheidseisen - Deel 1: Langs de achterzijde te beladen afvalinzamelwagens

NEN-EN 1501-1+A1 applies to rear loaded refuse collection vehicles (RCV), as defined in 3.2. This European Standard deals with all significant hazards, hazardous situations and events relevant to the rear loaded RCV, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, throughout its foreseeable lifetime, as defined in Clause 4. This European Standard is applicable to the design and construction of the rear loaded RCV so as to ensure that it is fit for its function and can be operated, adjusted and maintained during its entire lifetime. It is not applicable to the end of life of the rear loaded RCV. This part 1 describes and defines the safety requirements of rear loaded RCVs excluding the interface tailgate/discharge door with the lifting device(s) and the lifting device(s) as illustrated in Figure A.1. Safety requirements for the lifting device(s) and the interface with the tailgate/discharge door are defined in EN 1501-5. This European Standard is not applicable to: - operation in severe conditions, e.g. extreme environmental conditions such as: - below - 25 °C and above + 40 °C temperatures; - tropical environment; - wind velocity in excess of 75 km/h; - contaminating environment; - corrosive environment; - operation in potentially explosive atmospheres; - handling of loads the nature of which could lead to dangerous situations (e.g. hot wastes, acids and bases, radioactive materials, contaminated waste, especially fragile loads, explosives); - operation on ships. This European Standard is not applicable to machinery which is manufactured before the date of publication of this document by CEN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 1501-1:2011+A1:2015 en

€ 86.00

NEN-EN 1501-2:2005+A1:2009

Vuilniswagens en behorende hefinrichtingen - Algemene eisen en veiligheidseisen - Deel 2: Langs de zijkant te beladen vuilniswagens

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 5 which can arise during the operation and the maintenance of side loaded refuse collection vehicles (side loaded RCVs) used for the collection, transportation and unloading of solid wastes and as intended by the manufacturer or his authorised representative. This European Standard deals with: - side loaded refuse collection vehicles as defined in Clauses 3 and 4; EN 1501-2:2005+A1:2009 (E) 6 - lifting devices for side loaded refuse collection vehicles. Examples for basic types of side loaded refuse collection vehicles are given in Annex B.

Type C 2006/42/EG Geverifieerd

NEN-EN 1501-2:2005+A1:2009 en

€ 86.00

NEN-EN 1501-3:2008

Afvalinzamelwagens en de daarbij behorende hefinrichtingen - Algemene eisen en veiligheidseisen - Deel 3: Aan de voorzijde te beladen afvalinzamelwagens

This standard applies to front loaded refuse collection vehicles, as defined in 3.2, and specifies their technical requirements. This standard deals with all significant hazards, hazardous situations and events relevant to the front loaded RCV, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard part 3 describes and gives the requirements of the front loaded RCV and the associated lifting device(s) and refers to part 4 of this series of standards for the noise test code. Examples for standard types of front loaded refuse collection vehicles are given in Annex C. This European Standard is not applicable to: - operation in severe conditions (e.g. extreme environmental conditions such as: temperatures below -25 °C and above 40 °C, corrosive environment, tropical environment, lightning, wind velocity in excess of 75 km/h); - operation subject to special rules (e.g. potentially explosive atmospheres, contaminating environments); - transportation of passengers, lifting of persons; - loading by crane; - loading by satellite vehicle; - containers other than defined in EN 840-1 to -4, EN 12574-1 to -3 and type B of EN 13071; - handling of loads the nature of which could lead to dangerous situations such as hot wastes, acids and bases, radioactive materials, especially fragile loads, explosives. This document is not applicable to machinery which is manufactured before the date of its publication by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1501-3:2008 en

€ 86.00

NEN-EN 1501-4:2007

Afvalinzamelwagens en de daarbij horende hefinrichtingen - Algemene eisen en veiligheidseisen - Deel 4: Geluidsbeoordelingscode voor afvalinzamelwagens

This European Standard specifies the method for measuring the noise emission, which is a significant hazard of refuse collection vehicles (RCVs). Its goal is to obtain, on one hand, the emission sound pressure level at the operator's position(s) and, on the other hand, the sound power level of the RCV during waste collection. It specifies a standardized procedure for measurement and later comparison of RCVs noise emission, consisting of four operating conditions: chassis operation, compaction operation, lifting, tilting and lowering operation of a container and dumping of specified waste into the RCV. Together with information concerning other parameters, the test results obtained in accordance with this standard are also applicable to the evaluation of the hazards generated by noise from RCVs. This standard addresses the uncertainties due to measurement procedures. This standard deals with the noise measurement conditions for the types of RCVs defined and described in the standards of the EN 1501 series.

Type C 2006/42/EG Geverifieerd

NEN-EN 1501-4:2007 en

€ 49.30

NEN-EN 1501-5:2011

Afvalinzamelwagens - Algemene eisen en veiligheidseisen - Deel 5: Hefinrichtingen voor afvalinzamelwagens

This European Standard deals with all significant hazards, hazardous situations and events relevant to lifting devices used for the emptying of designated waste containers into RCVs and their fitting onto the RCVs when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer throughout their foreseeable lifetime as defined in Clause 4. This European Standard is applicable to the design and construction of the waste container lifting devices and the mounting of other lifting devices so as to ensure that they are fitted for their function and can be operated, adjusted and maintained during their entire lifetime. It is not applicable to the end of life of the lifting devices. This European Standard describes and gives the safety requirements of the lifting devices for emptying waste containers and their interfaces with the corresponding parts of the RCVs and shall be used in conjunction with Parts 1, 2 and 3 of EN 1501 for the rear, side and front loaded RCVs. It refers to EN 1501-4 for the noise test code. This European standard is not applicable to: - operation in severe conditions e.g. extreme environmental conditions such as: - temperatures below - 25 °C and above + 40°C; - tropical environment; - wind velocity in excess of 75 km/h; contaminating environment; - corrosive environment; - operation in potentially explosive atmospheres; - lifting and transportation of persons; - emptying waste containers other than those manufactured according to EN 840, EN 12574, EN 13071, and those described as paladin, diamond, skip containers; - loading bulky waste by means of platform or forks; - handling of loads the nature of which could lead to dangerous situations (e.g. hot wastes, acids and bases, radioactive materials, contaminated waste, especially fragile loads, explosives); - operation on ships; - fitting and operation on stationary compactors. This European Standard is not applicable to machinery which is manufactured before the date of its publication by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 1501-5:2011 en

€ 98.50

Warmtebehandelingstechniek

NEN-EN 746-1:1997+A1:2010

Industriële installaties voor warmtebehandelingsprocessen - Deel 1: Algemene veiligheidseisen voor industriële warmtebehandelingsprocessen

This part of EN 746 specifies common safety requirements for industrial thermoprocessing equipment (for example industrial furnaces and industrial heating equipment), which meets the definition for machinery given in "EN ISO 12100-1:2003". It details the anticipated significant hazards associated with industrial thermoprocessing equipment and specifies the appropriate preventative measures for reduction or elimination of these hazards. This standard gives general principles and common requirements for the reduction of risks for equipments covered by the scope. The common requirements apply to all of the subsequent parts of this EN 746 dealing with specific equipment unless an exception is stated in the relevant Part. The general principles (subclauses are pointed out) will be used to establish the specific technical measures in the subsequent Part(s) dealing with safety requirements for particular equipment. This part of EN 746 is applicable to industrial thermoprocessing equipments for use in fields such as: Metallurgical and metal working plant; Glass making plant; Ceramic manufacturing plant; Cement, lime and gypsum manufacturing plant; Chemical plant; Waste incineration equipment; And heated by: Gaseous fuels; Liquid fuels; Solid fuels; Mixed fuels; Electricity. The thermoprocessing equipment covered by this Part of EN 746 is further specified in clause 3. A more detailed list of thermoprocessing equipment within these categories is given in Annex A. In the remainder of this standard the expression "equipment" will be used. This Part of EN 746 is not applicable to blast furnaces, converters (in steel plants), boilers, welding machines or food processing equipment. This Part of EN 746 specifies the requirements to be met by the manufacturer to ensure the safety of persons and property during commissioning, start-up, operation, shut-down, maintenance periods and dismantling, as well as in the event of foreseeable faults or malfunctions which can occur in the equipment. It specifies the safety requirements at stages in the life of the equipment, and its design, ordering, construction, use and disposal. It specifies safety requirements for: Protection against: Mechanical hazards, movement of machinery and material, ejection of parts or material or liquids and gases, implosion, structural failure; Electrical hazards; Thermal hazards: explosion, fire, scalds, contact with hot parts, gases and flames; Noise and vibration; Thermal, optical and ionising and non-ionising radiation; Harmful by-products and hazardous substances, poisoning, biological and microbiological contamination, pollution and environmental discomfort; Other hazards such as listed in clause 4; maintenance, provision for indicators, and inspection. This part of EN 746 applies to equipment which is placed on the market after the date of issue of this standard.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 746-1:1997+A1:2010 en

€ 74.30

NEN-EN 746-2:2010

Industriële installaties voor warmtebehandelingsprocessen - Deel 2: Veiligheidseisen voor verbrandings- en brandstofsystemen

Dit deel van EN 746 specificeert in combinatie met EN 746-1 de veiligheidseisen voor enkelvoudige en meervoudige branders die deel uitmaken van een industriële installatie voor warmtebehandelingsprocessen (in deze norm aangeduid met de afkorting IIvW). Dit document behandelt de significante gevaren, gevaarlijke situaties en gebeurtenissen die relevant zijn voor verbrandings- en brandstofsystemen die deel uitmaken van een IIvW, zoals aangegeven in hoofdstuk 4, bij gebruik waarvoor deze bedoeld is en onder de omstandigheden die door de fabrikant zijn voorzien. Deze Europese norm omvat: - brandstofleidingwerk achter en met inbegrip van de met de hand bedienende toestelafsluiter; - brander(s), brandersysteem en ontstekingsinrichting; - besturingssysteem met veiligheidsfunctie (beschermingssysteem). Deze Europese norm is van toepassing op elke vorm van oxidatie met lucht, of andere gassen die vrije zuurstof bevatten van gasvormige, vloeibare of vaste brandstoffen, of van de verbranding hiervan, om warmte te produceren. Bij thermische of katalytische naverbranding en afvalverbranding geldt deze Europese norm alleen voor hulpbranders die zijn ontworpen om het proces op te starten en/of te ondersteunen. Het drukrisico van pijpstukken en onderdelen die onder deze norm vallen, ligt binnen de grenzen van de maximale verhouding tussen de druk en grootte, die beschreven staat in de normatieve bijlage E. Deze Europese norm geeft tevens de noodzakelijke informatie-eisen voor gebruik weer. Gevaren als gevolg van door elektriciteit opgewekte warmte worden niet afgedekt door deze Europese norm. Gevaren door het vrijkomen van ontvlambare stoffen uit de producten die in de IIvW zijn verwerkt worden niet behandeld in deze Europese norm.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 746-2:2010 nl

€ 152.30

NEN-EN 746-2:2010 en

€ 122.00

NEN-EN 746-3:1997+A1:2009

Industriële installaties voor warmtebehandelingsprocessen - Deel 3: Veiligheidseisen voor bescherm- en reactiegassen

This part of EN 746 specifies safety requirements for atmosphere gas systems and their use in industrial thermo-processing equipment and associated plant, including systems for the production of atmosphere gases by reaction inside the thermo-processing equipment. It applies to the supply of atmosphere gases, gaseous and liquid additions to, and their removal from industrial thermo-processing equipment and associated plant, confined to equipment integrated in the thermoprocessing and associated plant. This part of EN 746 also details the anticipated significant hazards associated with atmosphere gas systems and their use in industrial thermo-processing equipment and specifies the appropriate preventative measures for the reduction or elimination of these hazards. This part of EN 746 does not apply to atmosphere process gases, essential safety equipment, start-up, operation and shut-down of thermo-processing plant for semi-conductor devices for which special additional engineering requirements are necessary. This part of EN 746 specifies the requirements to be met to ensure the safety of persons and property during commissioning, start up, operation, shut down and maintenance, as well as in the event of foreseeable faults or malfunctions which can occur in the equipment. It specifies the safety requirements at stages in the life of the equipment, and its design, ordering, construction and use. This part of EN 746 applies to equipment which is placed on the market after the date of issue of this standard. The hazards covered by this Part of EN 746 are listed in clause 4. A table of typical atmosphere gases is given in Annex A.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 746-3:1997+A1:2009 en

€ 74.30

NEN-EN 1547:2001+A1:2009

Industriële installaties voor warmtebehandelingsprocessen - Geluidmeetmethoden voor industriële installaties voor warmtebehandelingen inclusief de laad- en losinrichtingen

This noise test code specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration and verification of the noise emission characteristics of industrial thermoprocessing equipment as described especially in EN 746-1, EN 746-2 and EN 746-3. It also indicates the location of work stations where measurements need to be made." Noise emission characteristics include emission sound pressure levels at work stations and the sound power level. The determination of these quantities is necessary for: manufacturers to declare the noise emitted; comparing the noise emitted by machines in the group concerned; purposes of noise control at the source at the design stage. The use of this standard ensures the reproducibility of the determination of the noise emission characteristics within specified limits determined by the grade of accuracy of the basic noise measurement method used. Noise measurement methods allowed by this standard are engineering methods (grade 2) and survey methods (grade 3). This standard does not cover the computation of personnel daily noise exposure.

Type C 2006/42/EG Geverifieerd

NEN-EN 1547:2001+A1:2009 en

€ 49.30

Overige normen**NEN-EN 267 Ontw.**

Verstuivingsbranders voor vloeibare brandstoffen

This European Standard specifies the terminology, the general requirements for the construction and operation of forced draught oil burners and also the provision of control and safety devices, and the test procedure for these burners. This European Standard applies to forced draught oil burners supplied with: - fuel based on first raffinates and their mixtures with biogenous liquid fuels having a viscosity at the burner inlet of 1,6 mm²/s (cSt) up to 6 mm²/s (cSt) at 20 °C, and - higher boiling petroleum based first raffinates (viscosity greater than 6 mm²/s), that require preheating for proper atomization. This European Standard is applicable to: - single burners fitted to a single combustion chamber; - single burners fitted to an appliance with additional requirements; - single-fuel and dual-fuel burners when operating on oil only; - the oil function of dual-fuel burners designed to operate simultaneously on gaseous and liquid fuels. This European Standard deals with all significant machine hazards, hazardous situations and events relevant to burners, when they are used as intended and under conditions of misuse which are reasonably foreseeable, see Annex J. This European Standard also deals with the additional requirements for the burners in the scope with pressurized parts and/or firing pressurized bodies, see Annex K. This European Standard specifies the requirements to ensure the safety during commissioning, start-up, operation, shut-down and maintenance. This European Standard deals also with forced draught burners intended to be used with biogenous liquid fuels, mixtures. This European Standard deals also with burners and their equipment to increase the total appliance efficiency, see Annex M.

Type C

NEN-EN 267:2017 2e Ontw. en

€ 59.10

NEN-EN 267:2009+A1:2011

Automatische verstuivingsbranders voor vloeibare brandstoffen

This European Standard specifies the terminology, the general requirements for the construction and operation of automatic forced draught oil burners and also the provision of control and safety devices, and the test procedure for these burners. This European Standard applies to automatic forced draught oil burners supplied with: - a fuel having a viscosity at the burner inlet of 1,6 mm²/s (cSt) up to 6 mm²/s (cSt) at 20 °C; and - higher boiling petroleum based first raffinates (viscosity greater than 6 mm²/s), that require preheating for proper atomisation. This European Standard is applicable to: - single burners fitted to a single combustion chamber; - single burners fitted to an appliance with additional requirements, then the relevant standard of this appliance shall be taken into account; - single-fuel and dual-fuel burners when operating on oil only; - the oil function of dual-fuel burners designed to operate simultaneously on gaseous and liquid fuels, in which case the requirements of EN 676 will also apply in respect of the gaseous fuel function. This European Standard deals with all significant machine hazards, hazardous situations and events relevant to burners, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, see Annex J. This European Standard also deals with the additional requirements for the burners in the scope with pressurised parts and/or firing pressurised bodies, see Annex K. This European Standard specifies the requirements to be met by the manufacturer to ensure the safety during commissioning, start-up, operation, shut-down and maintenance. This European Standard does not deal with hazards due to specific applications. This European Standard is not applicable to automatic forced draught oil burners which are manufactured before the date of its publication as European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 267:2009+A1:2011 en

€ 98.50

NEN-EN 303-5:2012

Centrale-verwarmingsketels - Deel 5: Centrale-verwarmingsketels voor vaste brandstoffen, met de hand of automatisch gestookt, nominale belasting tot 500 kW - Termen en definities, eisen, beproeving en merken

This European Standard applies to heating boilers including safety devices up to a nominal heat output of 500 kW which are designed for the burning of solid fuels only and are operated according to the instructions of the boiler manufacturer. This European Standard deals with significant hazards, hazardous situations and events relevant to heating boilers used as intended and under the conditions foreseen by the manufacturer (see Clause 4). The boilers may operate under natural draught or forced draught. The stoking may work manually or automatically. This European Standard contains requirements and test methods for safety, combustion quality, operating characteristics, marking and maintenance of heating boilers. It also covers all external equipment that influences the safety systems (e.g. back burning safety device, integral fuel hopper). This European Standard covers only boilers that include burners as a unit. The standard applies to the combination of a boiler body with a solid fuel burner according to EN 15270 as a unit only when the whole unit is tested in accordance with this European Standard. Heating boilers in accordance with this European Standard are designed for central heating installations where the heat carrier is water and the maximum allowable temperature is 110 °C, and which can operate at a maximum allowable operating pressure of 6 bars. For heating boilers with a built-in or attached water heater (storage or continuous flow heater), this European Standard only applies to those parts of the water heater which are necessarily subject to the operating conditions of the heating boiler (heating part). This European Standard does not apply to: heating boilers and other heating appliances which are also designed for the direct heating of the place of installation; cooking appliances; the design and construction of external fuel storage and transportation devices prior to the safety devices of the boiler; room sealed applications; condensing boilers. This European Standard specifies the necessary terminology for solid fuel heating boilers, the control and safety related requirements, the design requirements, the technical heating requirements (taking into account the environmental requirements) and testing, as well as the marking requirements. This European Standard is not applicable to heating boilers which are tested before the date of its publication as an EN (European Standard).

Type C 2006/42/EG Geverifieerd

NEN-EN 303-5:2012 en

€ 98.50

NEN-EN 458:2016

Gehoorbeschermers - Aanbevelingen voor keuze, gebruik, verzorging en onderhoud - Praktijkrichtlijn

NEN-EN 458 gives recommendations for the selection, use, care and maintenance of hearing protectors.

Type C

NEN-EN 458:2016 en

€ 74.30

NEN-EN 528:2008

Railgebonden stellingbedieningsapparatuur - Veiligheidseisen

This standard applies to all types of S/R machines, restricted to the rails on which they travel within and outside the aisles, which embody lifting means and may embody lateral handling facilities, for the storage and retrieval of unit loads and/or long goods such as bar materials and/or for order picking or similar duties. Also included is the transfer equipment used to change between aisles. Control of machines may range from manual to fully automatic. This standard does not apply to free ranging industrial trucks or robots. References in this standard to racking, buildings and systems only apply where it is necessary to assess the hazards and risks at their interfaces with S/R machines. This standard deals with all significant hazards relevant to rail dependent storage and retrieval equipment, when they are used as intended under the conditions foreseen by the manufacturer (see Clause 4). This standard applies to machines and equipment that are manufactured after the date of issue of this standard. Illustrations of examples of machines and transfer equipment to which this standard applies are shown in Annex A. Safety requirements and/or measures in this standard apply to equipment used under indoor conditions. However, additional risk assessments and safety measures need to be considered for uses in severe conditions, e.g. freezer applications, high temperatures, loads, the nature of which could lead to a dangerous situation (e.g. especially brittle loads, explosives), earthquake effects and also contact with foodstuff. Hazards during decommissioning are not covered. This European Standard also deals with the technical requirements for electromagnetic compatibility (EMC). Noise emitted by these machines is not considered as significant but as a relevant hazard. This means that the manufacturer of the machine is obliged to carry out noise reduction and indicate the noise level.

Type C 2006/42/EG Geverifieerd

NEN-EN 528:2008 en

€ 98.50

NEN-EN 676 Ontw.

Ventilatorbranders voor gasvormige brandstoffen

This European Standard specifies the terminology, the general requirements for the construction and operation of forced draught gas burners and also the provision of control and safety devices, and the test procedure for these burners. This European Standard is applicable to: - automatic gas burners with a combustion air fan (hereinafter called "burners") and gas line components, intended for use in appliances of different types, and that are operated with gaseous fuels; - pre-mixed burners and nozzle mixed burners; - single burners with a single combustion chamber; - single-fuel and dual-fuel burners when operating only on gas; - the gas function of dual-fuel burners designed to operate simultaneously on gaseous and liquid fuels, which, for the latter, the requirements of EN 267 also apply. This European Standard deals with all significant machine hazards, hazardous situations and events relevant to burners, when they are used as intended and under conditions of misuse which are reasonably foreseeable, see Annex J. This European Standard specifies the requirements to ensure the safety during commissioning, start-up, operation, shut-down and maintenance. This European Standard does not apply to burners specifically designed for use in industrial processes carried out on industrial premises. This European Standard deals also with the additional requirements for the burners in the scope with pressurized parts and /or firing pressurized bodies, see Annex K. This European Standard deals also with forced draught burners intended to be used with biogenous gaseous fuels, mixtures with line-conveyed gas and special gaseous fuels. This European Standard deals also with burners and their equipment to increase the total appliance efficiency, see Annex M.

Type C

NEN-EN 676:2016 2e Ontw. en

€ 59.10

NEN-EN 676:2003+A2:2008**Automatische ventilatorbranders voor gasvormige brandstoffen**

Deze Europese norm legt de terminologie, de algemene eisen voor de bouw en werking van automatische ventilatorbranders vast en ook de levering van regel- en beveiligingsinrichtingen en de beproegingsprocedure voor deze branders. Deze Europese norm gaat over alle significante machinegevaren, gevaarlijke situaties en gebeurtenissen die van toepassing zijn op branders, wanneer ze worden gebruikt als bedoeld en onder misbruikomstandigheden die redelijkerwijs te voorzien zijn door de fabrikant, zie bijlage J. Deze Europese norm specificeert de eisen waaraan de fabrikant moet voldoen om te veiligheid tijdens inbedrijfstelling, opstarten, in bedrijf zijn, afschakelen en onderhoud te waarborgen. Deze Europese norm gaat niet over gevaren voortkomend uit specifieke toepassingen. Deze Europese norm kan niet worden toegepast op gasventilatorbranders die zijn geproduceerd voor de datum van publicatie als EN.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 676:2003+A2:2008 en;nl € 137.40

NEN-EN 676:2003+A2:2008 en € 110.00

NEN-EN 676:2003+A2:2008/C1:2008**Automatische ventilatorbranders voor gasvormige brandstoffen**

Type C 2006/42/EG Geharmoniseerd

NEN-EN 676:2003+A2:2008/C1:2008 en;de;fr € 0.00

NEN-EN 957-6:2010+A1:2014**Vast opgestelde trainingsapparatuur - Deel 6: Loopbanden, aanvullende specifieke veiligheidseisen en beproevingsmethoden**

EN 957-6 specifies safety requirements and test methods for treadmills in addition to the general safety requirements and test methods of EN 957-1. It is intended that EN 957-6 is applied together with EN 957-1. This part of EN 957 deals with significant hazards, hazardous situations and events relevant to stationary training equipment used as intended and under the conditions of misuse foreseeable by the manufacturer (see Clause 4). EN 957-6 is applicable to power-driven as well as to non-power/manually driven training equipment type treadmills (hereafter referred to as treadmills) with the classes S, H and I and classes A, B and C regarding accuracy.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 957-6:2010+A1:2014 en € 61.30

NEN-EN 1865-2:2010+A1:2015**Middelen voor het vervoer van patiënten in ambulances - Deel 2: Elektrisch aangedreven brancards**

NEN-EN 1865-2+A1 defines minimum requirements for the design and performance of power assisted stretchers used in road ambulances for the treatment and transportation of patients. It aims to ensure patient safety and minimize the physical effort required by staff operating the equipment.

Type C

NEN-EN 1865-2:2010+A1:2015 en € 49.30

NEN-EN-ISO 5395-2:2013/A1:2017 (Cor. 2017-01)**Tuingereedschap - Veiligheidseisen van verbrandingsmotor aangedreven grasmaaiers - Deel 2: Aangedreven grasmaaiers met meeopende bestuurder - Amendment 1: Bestuurder aanwezigheid detectie toestel, snijmiddelen, slangen onder druk**

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 5395-2:2013/A1:2017 (Cor. 2017-01) en € 17.55

NEN-EN-ISO 10821:2005/A1:2009-03**Industriële naaimachines - Veiligheidseisen voor naaimachines, -eenheden en -systemen (Corrected and Reprinted)**

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 10821:2005/A1:2009-03 en € 14.49

NEN-EN-ISO 11114-3:2010**Vervoerbare gasflessen - Compatibiliteit van materialen voor flessen en afsluiters met de gasinhoud - Deel 3: Beproeving van de zelfontsteking van niet-metallische materialen in een zuurstofatmosfeer**

This part of ISO 11114 specifies a test method to determine the autogenous ignition temperature of non-metallic materials in pressurized gaseous oxygen. The autogenous ignition temperature is one criterion for ranking materials, and can be used to assist with the choice of materials used in the presence of gaseous oxygen. A comprehensive bibliography of the published material on which this part of ISO 11114 is based is included. It is intended that this part of ISO 11114 be used for the selection of non-metallic materials for gas cylinders and accessories, for example to select the materials in order to meet the requirement for type testing for oxygen compatibility of all cylinder valves for highly oxidizing gases as specified in ISO 10297.

Type C

NEN-EN-ISO 11114-3:2010 en € 52.53

NEN-EN-ISO 11554:2017

NEN-EN-ISO 11554 specifies test methods for determining the power and energy of continuous wave and pulsed laser beams, as well as their temporal characteristics of pulse shape, pulse duration and pulse repetition rate. Test and evaluation methods are also given for the power stability of cw-lasers, energy stability of pulsed lasers and pulse duration stability. The test methods given in this document are used for the testing and characterization of lasers.

Type C

NEN-EN-ISO 11554:2017 en

€ 79.70

NEN-EN 12186:2014

Gasvoorzieningssystemen - Gasdrukregelstations voor gastransport en -distributie - Functionele eisen

NEN-EN 12186 contains the relevant functional requirements for gas pressure regulating stations, which form part of gas transmission or distribution systems. It is applicable to the design, materials, construction, testing, operation and maintenance of gas pressure regulating stations. This European Standard does not apply to gas pressure regulating stations commissioned prior to the publication of this standard. The stations covered by this European Standard have a maximum upstream operating pressure which does not exceed 100 bar. For higher maximum upstream operating pressures this standard should be used as a guideline. If the inlet pipework of the station is a service line and the maximum upstream operating pressure does not exceed 16 bar and the design flow rate is equal to or less than 200 m³/h under normal conditions, EN 12279 applies. Basic system requirements for gas pressure regulating stations are contained in this European Standard. Requirements for individual components (valves, regulators, safety devices, pipes, etc.) or installation of the components are contained in the appropriate European Standards. The requirements in this European Standard do not apply to the design and construction of auxiliary facilities such as sampling, calorimetry, odorization systems and density measuring. These facilities are covered by the appropriate European Standards, where existing, or other relevant standards. The requirements of this European Standard are based on good gas engineering practice under conditions normally encountered in the gas industry. Requirements for unusual conditions cannot be specifically provided for, nor are all engineering and construction details prescribed. The requirements in this European Standard are based on the physical and chemical data of gaseous fuels - including non-conventional gases - in accordance with Table 1 of EN 437:2003+A1:2009 for first and second family gases. Additional requirements in the case of gaseous fuels heavier than air and/or sour gases are not covered by this European Standard. The objective of this European Standard is to ensure the safe operation of such stations. This does not, however, relieve all concerned of the responsibility for taking the necessary care and applying effective quality management during the design, construction and operation.

Type C

NEN-EN 12186:2014 en

€ 61.30

NEN-EN 12254:2010

Afschermingen voor werkplekken met lasers - Veiligheidseisen en beproeving

This European Standard specifies functional requirements and a product labelling applicable to temporary and permanent passive guards (in the following called screens) for protection against laser radiation. This standard includes test methods for testing functional performance and the specification of the user documentation to be supplied with the product. The screens are designed to protect the user from: unintentional exposure to direct and/or diffuse laser radiation; a time limited exposure to laser radiation, based on the functional requirements determined by risk assessment. This European Standard applies to supervised screens for installations in working places at which laser radiation up to a maximum mean power of 100 W or single pulse energy of 30 J occurs within the spectral range between 180 nm (0,18 µm) and 106 nm (1 000 µm). This European Standard applies to the protection against laser radiation only. This standard does not apply to other hazards including hazards from secondary radiation that can arise during, for example, material processing. This European Standard gives guidance on how to select such screens. Laser enclosures and housings that are supplied as part of the laser product or are supplied to be fitted to a laser system to form a laser product (according to EN 60825-1) are not considered to be within the scope of the standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 12254:2010 en

€ 49.30

NEN-EN 12254:2010/C1:2012

Afschermingen voor werkplekken met lasers - Veiligheidseisen en beproeving

Type C 2006/42/EG Geverifieerd

NEN-EN 12254:2010/C1:2012 en

€ 0.00

NEN-EN 13451-11 Ontw.

Zwembaduitrusting - Deel 11: Aanvullende specifieke veiligheidseisen en beproevingsmethoden voor beweegbare zwembadboden en beweegbare schotten

This European Standard specifies the safety requirements and the means of their verification for the design and construction of moveable pool floors and moveable bulkheads for use in classified swimming pools as specified in EN 15288-1 and EN 15288-2. This part of the EN 13451 series, when used with EN 13451-1, deals with the significant hazards, hazardous situations and events, as listed in Annex A, relevant to this equipment when used as intended and under the conditions of misuse reasonably foreseeable by the manufacturer during normal operation and service. When requirements of this part of the EN 13451 series are different from those which are stated in EN 13451-1, the requirements of this part of the EN 13451 series take precedence over the requirements of EN 13451-1 for machines that have been designed and built according to the requirements of this part of the EN 13451 series. The requirements of this part of the EN 13451 series take priority over those in EN 13451-1. This document doesn't apply to installations or equipment intended to move people into or out of a pool tank. This part of the EN 13451 series is not applicable to equipment which is manufactured before the date of its publication as EN.

Type C

NEN-EN 13451-11:2016 Ontw. en

€ 23.50

NEN-EN 13617-1:2012**Tankstations - Deel 1: Veiligheidseisen voor constructie en prestatie van meetpompen, brandstofzuilen en pomplijninstallaties op afstand**

This European Standard applies to metering pumps, dispensers and remote pumping units to be installed at petrol filling stations, designed to dispense liquid fuels into the tanks of motor vehicles, boats and light aircraft and into portable containers at flow rates up to 200 l/min-1, and intended for use and storage at ambient temperatures between -20 °C and +40 °C. Measures in addition to those required by this standard may be required for use and storage at temperature outside this range. The need for and nature of additional requirements should be determined by the manufacturer, if necessary after consulting the client. This European Standard deals with all significant hazards, hazardous situations and events relevant to metering pumps, dispensers and remote pumping units, when they are used as intended and under the conditions foreseeable by the manufacturer (see clause 4). This European Standard gives health and safety related requirements for the selection, construction and performance of the equipment. This European Standard does not deal with noise and with hazards related to transportation and installation. This European Standard does not include any requirements for metering performance. Vapour recovery efficiency rates are not considered within this European Standard. Fuels other than of Explosion Group IIA are excluded from this European Standard. This European Standard is not applicable to metering pumps, dispensers and remote pumping units which are manufactured before the date of publication of this document by CEN. This European Standard does not apply to equipment for use with liquefied petroleum gas (LPG) or liquefied natural gas (LNG) or compressed natural gas (CNG).

Type C 2006/42/EG Geverifieerd

NEN-EN 13617-1:2012 en

€ 74.30

NEN-EN 13977:2011**Railtoepassingen - Bovenbouw - Veiligheidseisen voor draagbare machines en lorries voor constructie en onderhoud**

This European Standard deals with the technical requirements to minimise the railway specific significant hazards of portable machines and trolleys intended for work on tracks as listed in Clause 4 which can arise during the commissioning, operation and maintenance of portable machines and trolleys when used as intended and under the conditions foreseen by the manufacturer. It does not deal with the performance of the machines, e.g. cutting, drilling, grinding. This European Standard applies to portable machines and trolleys with rail wheels or rollers designed for work whilst on the track with nominal track gauges of 1435 mm and 1668 mm and clearance gauge as defined in Annex B1) including, e.g. cutting and drilling machines. Other special vehicles used on railway tracks are dealt with in other European Standards, see Annex H. This European Standard establishes the additional requirements for electromagnetic compatibility due to e.g. electronic components as well as for hazards due to vibration.

Type C 2006/42/EG Geverifieerd

NEN-EN 13977:2011 en

€ 74.30

NEN-EN 14033-3:2017**Railtoepassingen - Bovenbouw - Railgebonden constructie- en onderhoudsmachines - Deel 3: Algemene veiligheidseisen**

NEN-EN 14033-3 specifies the significant hazards, hazardous situations and events common to rail bound machines and arising due to the adaptation for their use on railways. These machines are intended for construction, maintenance and inspection of track, structures, infrastructure and fixed electric traction equipment, when they are used as intended or under conditions of misuse which are reasonably foreseeable by the manufacturer, see Clause 4. This European Standard applies to railbound machines and other vehicles - referred to as machines - working exclusively on the railway (utilizing friction adhesion between the rail and rail wheels) but including machines that in working position are partly supported on the ballast or the formation and used for construction, maintenance and inspection of track, structures, infrastructure and fixed electric traction equipment. This European Standard applies to machines that are intended to operate signalling and control systems. Other similar machines are dealt with in other European Standards, see Annex G. This European Standard specifies the common hazards, in normal circumstances, during running, assembly and installation, commissioning, use (including setting, programming, and process changeover), operation, cleaning, fault finding, maintenance and de-commissioning of the machines. Additional safety measures can be required by exceptional circumstances, such as extreme ambient temperatures highly corrosive or contaminating environment; e.g. due to the presence of chemicals, and potentially explosive atmospheres. Specific measures for exceptional circumstances are not dealt with in this European Standard. The specific measures for exceptional circumstances introduced by a railway infrastructure manager and requirements introduced by the manufacturer and/or machine operator as referred to in the scope are not dealt with in this European Standard. When such additional measures are necessary, they should be agreed between the manufacturer and the machine operator. The manufacturer will be responsible independently of this European Standard, for the provision of risk reduction measures for additional hazards created by any additional or alternative requirements. The common hazards specified include the general hazards presented by the machines, and also the hazards presented by the following specific machine functions, common to two or more machine types: - ballast excavation, ballast cleaning, ballast regulating, ballast consolidating; - tamping; - track renewal; - craning; - maintenance of the components of the infrastructure; during commissioning, use, maintenance and servicing. This European Standard does not deal comprehensively with specific machine functions other than the common functions listed in the previous paragraph, or with all possible hazards presented by complete machines or by the combination of functions. For such specific functions or hazards, the use of specific European Standards is recommended. This European Standard does not deal with: - requirements with regard to the quality of work and the performance of the machine; - machines that utilize the overhead contact line for traction purposes; - specific requirements introduced by a railway infrastructure manager; - additional or alternative requirements introduced by the manufacturer and/or operator.

Type C

NEN-EN 14033-3:2017 en

€ 86.00

NEN-EN-ISO 14123-2:2015**Veiligheid van machines - Verlaging van gezondheidsrisico's tengevolge van de uitstoot van gevaarlijke stoffen door machines - Deel 2: methodiek voor het opstellen van toetsingsprocedures**

NEN-EN-ISO 14123-2 establishes a methodology that leads to the selection of critical factors relating to emissions of hazardous substances for the purpose of specifying suitable verification procedures. This part of ISO 14123 is intended to be used in conjunction with ISO 14123-1 and relates specifically to ISO 14123-1:2015, Clause 8.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 14123-2:2015 en

€ 34.42

NEN-EN-ISO 15012-4:2016

Gezondheid en veiligheid bij lassen en verwante processen - Apparatuur voor het opvangen en scheiden van lasrook - Deel 4: Algemene eisen

NEN-EN-ISO 15012-4 defines the general requirements for ventilation equipment used to control exposure to fumes generated by welding and allied processes. It applies to the design and manufacture of all parts of the equipment including hoods, ducting, filter units, air movers, systems that inform of unsafe operation and workplace practices to ensure safe working with regard to exposure. Significant hazards are listed in Clause 4. It does not cover electrical, mechanical and pneumatic hazards. This part of ISO 15012 is applicable to the following: - local exhaust ventilation systems (LEV); - mobile and stationary equipment. This part of ISO 15012 is not applicable to the following: - general ventilation, air make up or air movement systems; - air conditioning systems; - separation of gases generated by or used by welding and allied processes; - LEV used for welding and allied processes that generate reactive potentially explosive particles and atmospheres; - grinding dust. This part of ISO 15012 applies to systems designed and manufactured after its publication

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 15012-4:2016 en

€ 52.53

NEN-EN 15095:2007+A1:2009

Aangedreven mobiele stellingen - carrouselinstallaties en opslagliften - Veiligheidseisen

Type C 2006/42/EG Geverifieerd

NEN-EN 15095:2007+A1:2009 en

€ 74.30

NEN-EN 15194:2017

Fietsen - Elektrisch ondersteunde fietsen - EPAC Fietsen

NEN-EN 15194 applies to EPAC bicycles for private and commercial use with exception of EPAC intended for hire from unattended station. This European Standard is intended to cover all common significant hazards, hazardous situations and events (see Clause 4) of electrically power assisted bicycles, when used as intended and under condition of misuse that are reasonably foreseeable by the manufacturer. This European Standard is intended to cover electrically power assisted bicycles of a type which have a maximum continuous rated power of 0,25 kW, of which the output is progressively reduced and finally cut off as the EPAC reaches a speed of 25 km/h, or sooner, if the cyclist stops pedalling. This European Standard specifies requirements and test methods for engine power management systems, electrical circuits including the charging system for the design and assembly of electrically power assisted bicycles and sub-assemblies for systems having a rated voltage up to and including 48 V d.c. or integrated battery charger with a nominal 230 V a.c. input. This European Standard specifies safety and safety related performance requirements for the design, assembly, and testing of EPAC bicycles and subassemblies intended for use on public roads, and lays down guidelines for instructions on the use and care of such bicycles. This European Standard applies to EPAC bicycles that have a maximum saddle height of 635 mm or more and that are intended for use on public roads. This European Standard is not applicable to EPACs which are manufactured before the date of its publication as EN.

Type C

NEN-EN 15194:2017 en

€ 122.00

NEN-EN 15268:2008

Tankstations - Veiligheidseisen voor de constructie en prestatie van dompelpompinrichtingen

This European Standard applies to submersible pump assemblies intended for use with dispensers installed at petrol filling stations and used to dispense liquid fuels in accordance with EN 228 and EN 590 into tanks of motor vehicles, light aircrafts, boats and portable containers. The submersible pump assemblies are intended for use and storage at ambient temperatures between -20 °C and +40 °C. Additional measures can be required for use and storage at temperatures outside this range and are subject to negotiation between the manufacturer and purchaser. This European Standard specifies requirements for equipment with a maximum working pressure not exceeding 350 kPa (3,5 bar), power consumption not exceeding 7 KW and a maximum power supply voltage of 500 V. This European Standard specifies requirements for submersible pump assemblies of classes IIA T3 (explosion group IIA and temperature class T3) and IIB T4 (explosion group IIB and temperature class T4) using liquid fuels. This European Standard deals with all significant hazards, hazardous situations and events relevant to submersible pump assemblies, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies safety requirements for design, installation, commissioning, use and maintenance. Noise is not considered a significant hazard for the equipment in the scope of this European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 15268:2008 en

€ 61.30

NEN-EN 15746-2 Ontw.

Railtoepassingen - Bovenbouw - Weg-, spoormachines en bijbehorende uitrusting - Deel 2: Algemene veiligheidseisen

This European Standard specifies the significant hazards, hazardous situations and events, common to self-propelled road-rail machines - henceforward referred to as machines - and attachments as defined in prEN 15746-1:2015, 3.5 and 3.6, and arising due to the adaptation for their use on rail. These machines are intended for construction, maintenance and inspection of the railway infrastructure, shunting and emergency rescue vehicles, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer; see Clause 4. This European Standard deals with the common hazards during running, assembly and installation, commissioning, travelling on and off track, use including setting, programming, and process changeover, operation, cleaning, fault finding, maintenance and de-commissioning of the machines. The common hazards dealt with include the general hazards presented by the machines, and also the hazards presented by the following specific machine functions: a) excavation; b) ballast tamping, ballast cleaning, ballast regulating, ballast consolidating; c) track construction, renewal, maintenance and repair; d) craning; e) catenary renewal / maintenance; f) maintenance of the components of the infrastructure; g) inspection and measurement of the components of the infrastructure; h) tunnel inspection / ventilation; i) shunting; j) vegetation control; k) emergency rescue and recovery; during commissioning, use, maintenance and servicing. For a road-rail machine it is assumed that an EU road permissible host vehicle will offer an accepted safety level for its designed basic functions before conversion. Unless explicitly stated otherwise in a particular clause this specific aspect is not dealt with in this European Standard. A manufacturer should carry out an appropriate risk assessment for the complete machine. Irrespective of whether a harmonized standard exists for the machine in road configuration, this should identify any additional hazards arising from the particular application of the chassis and the protective measures required to adequately deal with them. This European Standard does not deal with: 1) requirements with regard to the quality of work and the performance of the machine; 2) machines that utilize the catenary for traction purposes; 3) specific requirements established by a railway infrastructure manager; 4) negotiations between the manufacturer and the machine operator for additional or alternative requirements; 5) requirements for use and travel of the machine on public highway; 6) hazards due to air pressure caused by the passing of high-speed trains at more than 190 km/h; 7) requirements which could be necessary in case of use in extreme conditions, such as extreme ambient temperatures (tropical or polar); see 5.30; 8) highly corrosive or contaminating environment, e.g. due to the presence of chemicals; 9) potentially explosive atmospheres. Other special vehicles used on railway tracks are dealt with in other European Standards, see Annex E.

Type C

NEN-EN 15746-2:2016 Ontw. en

€ 46.90

NEN-EN 15746-2:2010+A1:2011

Railtoepassingen - Bovenbouw - Weg-, spoormachines en bijbehorende uitrusting - Deel 2: Algemene veiligheidseisen

This European Standard specifies the significant hazards, hazardous situations and events, common to selfpropelled road-rail machines and attachments as defined in 3.5 and 3.6 of EN 15746-1:2010 and arising due to the adaptation for their use on rail intended for construction, maintenance inspection of the railway infrastructure, shunting and emergency rescue vehicles, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, see Clause 4. This European Standard deals with the common hazards during running, assembly and installation, commissioning, travelling on and off track, use including setting, programming, and process changeover, operation, cleaning, fault finding, maintenance and de-commissioning of the machines.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15746-2:2010+A1:2011 en

€ 86.00

NEN-EN 15895:2011

Handgereedschap met schietpatronen - Veiligheidseisen - Deel 1: Gereedschappen voor bevestigen en hard markeren

This European standard covers safety requirements for cartridge operated fixing and hard marking tools which operate with an intermediate member (piston). This European standard deals with all significant hazards, hazardous situations and events relevant to cartridge operated fixing and hard marking tools, when they are used as intended and under conditions of misuse which are reasonably foreseeable. It deals with the significant hazards in the different operating modes and intervention procedures as referred to in EN ISO 12100-1:2003, 5.3. Although the safe use of cartridge operated tools depends to an important extent on the use of appropriate cartridges and fasteners, this standard is not formulating requirements for the cartridges and fasteners to be used with the tools. This European Standard applies to tools designed for use with cartridges with casings made of metal or plastic and with solid propellant and containing a minor quantity of primer with a composition different from that of the main propellant. The fixing tools in the scope are those intended for use with fasteners made from metal.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 15895:2011 en

€ 74.30

NEN-EN 15948:2015

Granen - Bepaling van vocht en eiwit - Methode die gebruik maakt van nabij infrarood spectroscopie in hele korrels

NEN-EN 15948 defines a routine method for the determination of moisture and protein in whole kernels of barley and wheat using a near-infrared spectrophotometer in the constituent ranges: a) for wheat: 1) moisture content minimum range from 8 % to 22 %; 2) protein content minimum range from 7 % to 20 %. b) for barley: 1) moisture content minimum range from 8 % to 22 %; 2) protein content minimum range from 7 % to 16 %. This European Standard describes the modalities to be implemented by the supplier (5.3 and 5.4) and the user of the method.

Type C

NEN-EN 15948:2015 en

€ 74.30

NEN-EN 15954-2:2013**Railtoepassingen - Bovenbouw - Trailers en bijbehorende uitrusting - Deel 2: Algemene veiligheidseisen**

This European Standard specifies the technical requirements to deal with the significant hazards, hazardous situations and events, common to trailers, as defined in the scope of FprEN 15954-1, including machinery, attachments and equipment permanently fixed to the trailer, intended for construction, maintenance and/or inspection of the railway infrastructure, emergency rescue and recovery. This European Standard specifies the technical requirements to deal with the common hazards during transport, assembly and installation, commissioning, running on track, use (including setting, programming, and process changeover), operation, cleaning, fault finding, maintenance and de-commissioning of the trailers when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer; see Clause 4. The common hazards dealt with include the general hazards presented by the trailers, and also the hazards presented by the following specific trailer functions: - track renewal; - rail maintenance; - craning; - catenary renewal / maintenance; - maintenance of the components of the infrastructure; - inspection and measurement of the components of the infrastructure; - tunnel inspection / ventilation; - emergency rescue and recovery during commissioning, use, maintenance and servicing. This European Standard applies to trailers that are not intended to operate signalling and control systems. Other similar machines are dealt with in other European Standards; see Annex D. It is assumed that a finished standard automotive chassis used as a host for a road-rail trailer will offer an acceptable safety level for its designed functions before conversion. This specific aspect is not dealt with in this European Standard. This European Standard does not deal with: a) requirements with regard to the quality of work and the performance of trailers; b) specific requirements established by a railway infrastructure manager; c) negotiations between the manufacturer and the trailer operator for additional or alternative requirements; d) requirements for use and running of the trailer on public highway; e) hazards due to air pressure caused by the passing of high-speed trains at more than 200 km/h; f) requirements which could be necessary in case of use in extreme conditions, such as: 1) extreme ambient temperatures (below - 20°C or above + 40°C); 2) highly corrosive or contaminating environment, e.g. due to the presence of chemicals; 3) potentially explosive atmospheres. This European Standard applies to all trailers that are ordered one year after the publication date by CEN of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 15954-2:2013 en

€ 86.00

NEN-EN 15955-2:2013**Railtoepassingen - Bovenbouw - Uit het spoor te nemen machines en bijbehorende uitrusting - Deel 2: Algemene veiligheidseisen**

This European Standard specifies the technical requirements to deal with the significant hazards, hazardous situations and events, common to demountable machines, as defined in FprEN 15955-1:2012, intended for construction, maintenance inspection of the railway infrastructure, shunting and emergency rescue vehicles. This European Standard specifies the technical requirements to deal with the common hazards during transport, assembly and installation, commissioning, running on track, use including setting, programming, and process changeover, operation, cleaning, fault finding, maintenance and de-commissioning of the machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer; see Clause 4. The common hazards dealt with include the general hazards presented by the machines, and also the hazards presented by the following specific machine functions: - excavation; - ballast tamping, ballast cleaning, ballast regulating, ballast consolidating; - track renewal; rail maintenance; - craning; - catenary renewal / maintenance; - maintenance of the components of the infrastructure; - inspection and measurement of the components of the infrastructure; - tunnel inspection / ventilation; - shunting; - emergency rescue and recovery during commissioning, use, maintenance and servicing. This European Standard applies to self propelled machines that are not intended to operate signalling and control systems. Other similar machines are dealt with in other European Standards; see Annex D. It is assumed that a finished standard automotive chassis used as a host for a demountable machine will offer an acceptable safety level for its designed functions before conversion. This specific aspect is not dealt with in this European Standard. This European Standard does not deal with: a) requirements with regard to the quality of work and the performance of the machine; b) machines that utilise the catenary for traction purposes; d) negotiations between the manufacturer and the machine operator for additional or alternative requirements; e) hazards due to air pressure caused by the passing of high-speed trains at more than 200 km/h; f) requirements which could be necessary in case of use in extreme conditions, such as: 1) extreme ambient temperatures (below - 20 °C or above + 40 °C); 2) highly corrosive or contaminating environment, e.g. due to the presence of chemicals; 3) potentially explosive atmospheres. This European Standard applies to all machines that are ordered one year after the publication date by CEN of this standard. c) specific requirements established by a railway infrastructure manager;

Type C 2006/42/EG Geverifieerd

NEN-EN 15955-2:2013 en

€ 86.00

NEN-EN 15997:2011**Terreinvoertuigen (ATVs - Quads) - Veiligheidseisen en beproevingsmethoden**

This European Standard applies to "All Terrain Vehicles" or "ATVs" as defined in Clause 3 using liquid fuels (e.g. petrol, diesel). This European Standard does not deal with requirements relating to use on public roads. This European Standard deals with all significant hazards, hazardous situations and events relevant to ATVs, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It deals with the significant hazards during the whole lifecycle of the product as defined in 5.3 of EN ISO 12100-1:2003.

Type C 2006/42/EG Geverifieerd

NEN-EN 15997:2011 en

€ 98.50

NEN-EN 15997:2011/C1:2012**Terreinvoertuigen (ATVs - Quads) - Veiligheidseisen en beproevingsmethoden**

Type C 2006/42/EG Geverifieerd

NEN-EN 15997:2011/C1:2012 en;de;fr

€ 0.00

NEN-EN 16029:2012

Gemotoriseerde (ride-on) voertuigen bedoeld voor het vervoeren van personen en niet bedoeld voor gebruik op openbare wegen - Motorvoertuigen met enkel spoor en met twee wielen - Veiligheidseisen en beproevingsmethoden

This European Standard specifies the safety requirements and the test methods for single-track two-wheel motor vehicles, driven by a rider sitting astride. This European Standard deals with all significant hazards, hazardous situations and events relevant to single-track two-wheel motor vehicles propelled by a spark ignited internal combustion engine (hereinafter referred to as "vehicles"), when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer. The vehicles covered by this European Standard are not intended to be used on public roads. The vehicles covered by this European Standard are intended only for the rider and not for passengers. This European Standard does not cover vehicles propelled with gaseous fuels. This European Standard specifies the appropriate measures to eliminate or reduce the risks arising from the significant hazards, hazardous situations and events (see Clause 4) during commissioning, operation and maintenance of the vehicles when carried out in accordance with the specifications as intended by the manufacturer. This European Standard is not applicable to vehicles which are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 16029:2012 en

€ 86.00

NEN-EN-ISO 16119-2:2013(Cor. 2017-04)

Land- en bosbouwmachines - Milieueisen voor sputtmachines. Deel 2: Sputtmachines met een horizontale sputtboom

NEN-EN-ISO 16119-2 specifies requirements and the means for their verification for the design and performance of horizontal boom sprayers, as defined in 3.1, with regard to minimizing the potential risk of environmental contamination during use, including misuse foreseeable by the manufacturer. It is intended to be used with ISO 16119-1, which gives general requirements common to all the sprayer types covered by ISO 16119. When requirements of this part of ISO 16119 are different from those which are stated in ISO 16119-1, the requirements of this part of ISO 16119 take precedence over the requirements of ISO 16119-1 for machines within the scope of this part of ISO 16119. It does not cover safety aspects (see ISO 4254-6). This part of ISO 16119 is not applicable to sprayers manufactured before the date of its publication.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 16119-2:2013(Cor. 2017-04) en

€ 79.70

NEN-EN 16230-1:2013+A1:2015

Vrijtijdskarts - Deel 1: Veiligheidseisen en beproevingsmethoden voor karts

NEN-EN 16230-1:2013+A1 applicable for karts, according to 3.1, that are not intended to be used on public roads. This European Standard applies to: - leisure karts only; - karts propelled by a combustion engine, including LPG combustion engines; - karts used on indoor and outdoor tracks, permanent or temporary; - karts used on supervised tracks designed for leisure karting, with a sealed ground (such as asphalt, concrete, ice or snow). This European Standard does not apply to: - karts used for competition organised by and under the responsibility of the CIK-FIA and/or ASN, ensuring through the granting of licenses by an ASN or one of its affiliated members as defined in the International Sporting code, compliance with the safety, sporting, disciplinary and technical rules of the CIK-FIA and/ or ASN; - karts designed exclusively for competition and toys; - cross country karts; - karts with two or more seats; - karts used on tracks not mentioned above (such as mud, earth); - karts used in amusement parks. The requirements related to the hazards of electrical propulsion are not covered in this European Standard. The requirements related to whole-body vibration are not covered in this European Standard. This European Standard specifies appropriate measures to eliminate or reduce the risks arising from significant hazards, hazardous situations and events (see Clause 6) during operation and maintenance of the karts, when carried out as intended by the manufacturer. Safety in karting activities is dependent on a correct interaction between leisure karts and the track equipment and facilities. General recommendations for tracks to be used for leisure karting are included in this part of the standard. This document is not applicable to karts that are manufactured before the date of publication of this European Standard by CEN.

Type C 2006/42/EG Geverifieerd

NEN-EN 16230-1:2013+A1:2015 en

€ 86.00

NEN-EN 16252:2013

Machines voor het verdichten van afvalstoffen van recyclebare fracties - Horizontale balenpersen - Veiligheidseisen

This European Standard specifies the safety requirements for the design, manufacture and information for safe use of horizontal baling presses for compacting waste material or recyclable fractions (e.g. paper, plastics, textiles, cans, cardboard, mixed waste), hereafter referred to as materials. It covers only machines fed by conveyors or by feed hoppers where the bales are bound manually or automatically. The feed hoppers covered by this European Standard are only fed mechanically or by hand. The scope of this European Standard includes any mechanical feed equipment, such as belt type loading and feed conveyors or bin lifts, forming an integral part of the baling press assembly. However, pneumatic conveying systems are outside the scope of this European Standard. This European Standard does not apply to cranes, lift trucks or other mobile plant used to load materials into the feed hopper. Nor does it apply to hazards arising from loading the feed hopper using cranes, lift trucks or other mobile plant. This European Standard does not apply to pre-conditioning equipment connected at the inlet side of the feed hopper (e.g. sorter, shredder, stand-alone perforator), nor to equipment at the outlet side of the baling press. This European Standard does not deal with suction and de-dusting mechanisms. This European Standard does not apply to hazards arising from the materials being processed (e.g. asbestos, clinical waste, aerosol containers). This European Standard does not cover risks arising from installation of baling presses in places accessible to the public. All hazards mentioned in Clause 4 are dealt with in this European Standard. This European Standard is not applicable for horizontal baling presses which are manufactured before the date of its publication as an European Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN 16252:2013 en

€ 74.30

NEN-EN 16486:2014**Machines voor het verdichten van afvalstoffen of recyclebare fracties - Compactors - Veiligheidseisen**

NEN-EN 16486 specifies the safety requirements for the design, manufacture and information for the safe use of compactors that compact waste material or recyclable fractions (e. g. paper, plastics, textiles, cans, cardboard, mixed waste), hereafter referred to as materials. This European Standard applies to: - compactors using a horizontally moving screw, pendulum or plate as compacting part and where the materials move horizontally; and - compactors that are mechanically fed and/or fed by hand. These compactors can be: - static compactors; - transportable compactors; - traversing systems. The scope includes: - any integral mechanical feed equipment (e.g. bin lift); - feed hoppers/openings; - any integral pre-conditioning equipment in the hopper (e.g. perforators, pre-crushing devices and shredders); - any integral material flow control equipment; - the interface between the compactor and any feed equipment (except those excluded from the scope). The scope of this European Standard does not cover: - compactors that are covered by EN 1501 (all parts); - underground compactors, however if these compactors can be used above ground this standard applies; - compactors using thermal technologies for compaction; - vacuum compactors; - compactors where materials are compacted vertically; - containers for static compactors, however the interface between the compaction unit and the container is included; - bins in which materials are collected for feeding into the compactor; - any up-stream pre-treatment equipment that is not integral to the machine and is used to treat the materials before they are fed into the feed opening of the compactor; - vehicles including lifting equipment used to collect and transport the compactor or container; - cranes, lift trucks or other transportable plant used to load materials into the feed hopper/opening and the hazards arising out of using this equipment to load; - any suction or dust control equipment. This European standard does not cover the lifting and transport of transportable compactors. This European Standard does not apply to hazards arising from the materials being processed (e.g. asbestos, clinical waste, aerosol containers). All hazards mentioned in Clause 4 are dealt with in this European Standard. This European Standard is not applicable for compactors which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16486:2014 en

€ 74.30

NEN-EN 16500:2014**Machines voor het comprimeren van afvalmaterialen of recycleerbare delen - Verticale balenpersen - Veiligheidseisen**

NEN-EN 16500 specifies the safety requirements for the design, manufacture and information for safe use of vertical baling presses for compacting waste material or recyclable fractions (e. g. paper, plastics, textiles, cans, cardboard, mixed waste), hereafter referred to as materials. This standard covers vertical baling presses: - that are manually or mechanically fed; and - with fixed enclosed baling chambers (single or multiple chamber presses); and - with a mechanically, hydraulically or pneumatically operated compacting equipment; and - where the compacted bale is tied manually in the baling chamber; and - with manual unloading or mechanical ejection of the compacted bale. The scope of this standard includes any mechanical feed equipment, such as belt type conveyors or bin lifts, forming an integral part of the baling press assembly. It also includes integral material flow control equipment. This standard does not apply to: - vertical baling presses without fixed enclosed baling chamber(s); or - round balers or roll baling machines; or - machines where the material is compacted into a bag; or - pneumatic conveying systems; or - equipment for transporting the bales; or - local exhaust ventilation for the removal of dusts or vapours; or - hazards arising from any integral pre-conditioning equipment; or - hazards arising from the materials being processed (e.g. asbestos, clinical waste, flammable or explosive materials, unhealthy or poisonous waste). This standard does not apply to cranes, lift trucks or other mobile plant used to load materials into the feed opening. Nor does it apply to hazards arising from loading materials into the feed opening using cranes, lift trucks or other mobile plant. This standard does not include specifications to meet the requirements of the ATEX Directive 94/9/EC. All hazards mentioned in Clause 4 are dealt with in this European Standard. This European Standard is not applicable for vertical baling presses which are manufactured before the date of its publication as an EN.

Type C 2006/42/EG Gehrmoniseerd

NEN-EN 16500:2014 en

€ 74.30

NEN-EN 16778:2016**Bescherrende handschoenen - Bepaling van dimethylformamide in handschoenen**

NEN-EN 16778 specifies a test method for the determination of Dimethylformamide (DMFa - CAS N° 68-12-2) in glove materials. The test method is applicable for the following materials: - polyurethane (PU) materials (except elastane), PU Coated material (textile, leather), PU foam, PU blended materials; - adhesives; - all materials manufactured with a dipping process using DMFa.

Type C

NEN-EN 16778:2016 en

€ 49.30

NEN-EN 16808 Ontw.**Aardolie-, petrochemie- en aardgasindustrie - Machineveiligheid - Handbediende hijswerktuigen**

This European Standard specifies general safety requirements for the design, testing and production of manually operated elevators. The requirements are applicable for on- and off-shore applications of such elevators in the petroleum and petrochemical industries, and are in accordance with EU legislation. This European Standard does not cover any other type of elevator. It is not applicable to the following types of products: - lifting nubbins; - lifting plugs; - lifting subs; - internal gripping devices; - equipment for lifting tubular from and onto a vessel. This list is not exclusive.

Type C

NEN-EN 16808:2015 Ontw. en

€ 29.20

NEN-EN 16967:2017**Diervoeders: Methoden voor monsterneming en analyse - Voorspellende vergelijkingen voor metaboliseerbare energie in compleet en in aanvullend huisdiervoer voor katten en honden (inclusief dieetvoer)**

NEN-EN 16967 specifies predictive formulae for the determination of metabolizable energy (ME) in - products of vegetable or animal origin, in their natural state, fresh or preserved, such as meat, offal, milk products, cooked starch sources; highly digestible special products such as milk substitutes or diets for enteral nutrition; - complete or complementary products derived from the industrial processing for cats and dogs.

Type C

NEN-EN 16967:2017 en

€ 61.30

NEN-EN 17003 Ontw.

Wegvoertuigen - Rollenbanken voor beproeving van remmen van voertuigen met een GVW hoger dan 3,5 ton - Veiligheidseisen

This European Standard applies to roller brake testers (brake test benches) designed for roadworthiness tests on categories M2, M3, N2, N3, O3 and O4 vehicles and that might be also used to test M1, N1 categories. This European Standard covers fixed-bed roller brake testers with or without inspection pits and whose chassis are inside or outside the building. This European Standard is not covering mobile roller brake testers. These roller brake testers are fitted to produce measurements for testing and assessing the efficiencies of the brake systems equipping vehicles in the above-cited categories. The users of the roller brake tester are all kind of staff that for any reason operates the roller brake testers (e.g. staff working in public transport, vehicle rental, vehicle maintenance, vehicle repair, training, test laboratories and vehicle inspection sectors, ...). This document is applicable to roller brake testers manufactured 12 months after the date of its publication as EN.

Type C

NEN-EN 17003:2016 Ontw. en

€ 35.70

NEN-EN 17088 Ontw.

This European Standard specifies the standardization of side curtain ventilation systems supplied for environmental control, installed on farm buildings, that use a barrier made from a flexible foil or fabric which moves via a rolling or folding action, or rigid panels that slide, as far as safety aspects, performance and sustainability issues are concerned. Included are machines that operate using the potential energy stored by the earlier application of human or animal force, such as stretched springs. This European Standard does not cover operation in environments where the electromagnetic disturbances are outside the range of those specified in EN 61000-6-3.

Type C

NEN-EN 17088:2017 Ontw. en

€ 46.90

NEN-EN 17170 Ontw.

Ventilators - veiligheidseisen

This European Standard is applicable to all types of fans other than fans that are household appliances intended for domestic use. NOTE 1 Fans intended for household purposes are typically used on desks, ceilings, free standing or, partitions (e.g. window and wall fans) and ducts. They are assumed to have mainly electricity related risks. These fans are in the scope of EN 60335-2-80. It deals with all significant hazards, hazardous situations and events relevant to fans during transport, assembly and installation, commissioning and use as defined in EN ISO 12100:2010, Annex B, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see 3.24). NOTE 2 This standard deals a.) with standalone fan units, ready for operation, complete with control systems and all other features that ensure safety in use and b.) with fans for installation (e.g. in ventilation systems) or incorporation with other equipment where control systems and all other features that ensure safety are provided by others, (details should be provided by the fan manufacturer). This European Standard applies to electrically driven fans and, apart from the hazards related to the drives, it shall also apply to fans driven from other energy sources. Further safety measures may be required for the additional hazards due to the application. This European Standard does not deal with the hazards due to the use of fans in a potentially explosive atmosphere (see e.g. EN ISO 14986). This European Standard is not applicable to fans, which are manufactured before the date of its publication.

Type C

NEN-EN 17170:2017 Ontw. en

€ 29.20

NEN-EN-ISO 17916:2016

Veiligheid van thermische snijmachines

NEN-EN-ISO 17916 specifies the safety requirements and measures for machinery covering design, construction, production, transport, installation, operation, maintenance, and putting out of service. This International Standard applies to machinery using thermal cutting and/or marking processes such as oxy-fuel, plasma arc. This International Standard applies to machinery the basis of which is either designed as open gantry, cantilever machine, or the track of which is incorporated in the cutting table. This International Standard does not cover design standards for specific tools, e.g. oxy-fuel hose standards, electrical requirements for plasma power supplies. Most tools used on thermal cutting machines have specific design standards. This International Standard does not cover handheld cutting equipment and cutting equipment which is combined with a constrained tracking system mounted on the work piece. Risks arising from thermal cutting tools may be covered by related standards. Risks arising from laser radiation, except those caused by position indicating lasers, are not covered by this International Standard. Those risks are covered by ISO 11553. Machines that combine thermal processes with other processes (e.g. grinding, drilling, milling, etc.) are only partly covered. Risks arising from these other processes may be covered by related standards.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-ISO 17916:2016 en

€ 124.99

NEN-EN-ISO 19085-1:2017

Houtbewerkingsmachines - Veiligheid - Deel 1: Algemene eisen

NEN-EN-ISO 19085-1 gives the safety requirements and measures to reduce risks related to woodworking machines arising during operation, adjustment, maintenance, transport, assembly, dismantling, disabling and scrapping and which are common to machines used in the woodworking industry. It is applicable to woodworking, stationary and displaceable machines when they are used as intended and under the conditions foreseen by the manufacturer. It is intended to be used in conjunction with the other parts of ISO 19085, applicable to specific machine types. It is not applicable to machines intended for use in potential explosive atmospheres or to machines manufactured prior to the date of its publication.

Type C

NEN-EN-ISO 19085-1:2017 en

€ 143.10

NEN-EN-ISO 19085-5:2017**Houtbewerkingsmachines - Veiligheid - Deel 5: Panelenzagen**

NEN-EN-ISO 19085-5 gives the safety requirements and measures for stationary and displaceable dimension saws, hereinafter referred to as "machines", designed to cut wood and material with similar physical characteristics to wood.

Type C

NEN-EN-ISO 19085-5:2017 en

€ 143.10

NEN-EN-ISO 23125:2015 (Cor. 2016-05)**Veiligheid van gereedschapsmachines - Draaimachines**

NEN-EN-ISO 23125 specifies the requirements and/or measures to eliminate the hazards or reduce the risks in the following groups of turning machines and turning centres, which are designed primarily to shape metal by cutting. - Group 1: Manually controlled turning machines without numerical control. - Group 2: Manually controlled turning machines with limited numerically controlled capability. - Group 3: Numerically controlled turning machines and turning centres. - Group 4: Single- or multi-spindle automatic turning machines. NOTE 1 For detailed information on the machine groups, see the definitions in 3.4 and mandatory and optional modes of operation in 3.3. NOTE 2 Requirements in this International Standard are, in general, applicable to all groups of turning machines. If requirements are applicable to some special group(s) of turning machines only, then the special group(s) of turning machine(s) is/are specified. NOTE 3 Hazards arising from other metalworking processes (e.g. grinding and laser processing) are covered by other International Standards (see Bibliography). This International Standard covers the significant hazards listed in Clause 4 and applies to ancillary devices (e.g. for workpieces, tools and work clamping devices, handling devices and chip handling equipment), which are integral to the machine. This International Standard also applies to machines which are integrated into an automatic production line or turning cell inasmuch as the hazards and risks arising are comparable to those of machines working separately. This International Standard also includes a minimum list of safety-relevant information which the manufacturer has to provide to the user. See also ISO 12100:2010, Figure 2, which illustrates the interaction of manufacturer's and user's responsibility for the operational safety. The user's responsibility to identify specific hazards (e.g. fire and explosion) and reduce the associated risks can be critical (e.g. whether the central extraction system is working correctly). Where additional processes (milling, grinding, etc.) are involved, this International Standard can be taken as a basis for safety requirements; for specific information see the Bibliography. This International Standard applies to machines that are manufactured after the date of issue of this International Standard.

Type C 2006/42/EG Geverifieerd

NEN-EN-ISO 23125:2015 (Cor. 2016-05) en

€ 161.21

NEN-EN 50059:2017 Ontw**Elektrostatische handspuitapparatuur - Veiligheidseisen - Handspuitapparatuur voor niet ontvlambare coating materialen**

This European Standard specifies the requirements for hand-held or hand-operated electrostatic spraying equipment for non-ignitable liquid coating materials which - do not generate an explosive atmosphere inside the spraying area; - are used to process materials with a conductivity of less than 2000 µS/cm; - operate with direct current having a sinusoidal ripple of not more than 10 % of the rms value. This European Standard deals with all electrical hazards significant for the electrostatic spraying of non-ignitable liquid coating materials, which could also contain small quantities of added metal particles, if the work is carried out under conditions recommended by the manufacturer. This European Standard specifies the design-related and test requirements for electrostatic spraying equipment of type A-NL according to Table 1 of EN 50348:2010. With regard to all other significant hazards relevant for applicators (e.g. ejection of fluids, mechanical strength, electrical (apart from electrostatic) hazards, noise, contact with or inhalation of dangerous substances, ergonomics) the requirements of EN 1953 applies. This European Standard also gives details regarding quality assurance systems for electrostatic spraying equipment, see Annex D. For electrostatic spraying equipment used in food and pharmaceutical industry, additional requirements may apply. This European Standard does not apply to - electrostatic hand-held spraying equipment for non-ignitable coating materials which are placed on the market before the date of publication of this European Standard - cleaning of spraying areas, see instruction manual of the spraying booth, - fire prevention and protection [for instance fire hazards due to other sources; see EN 12215, EN 1298, - requirements for machinery for the supply and recirculation of coating material under pressure [see EN 12621]. The requirements of EN 12621 apply for specific requirements for machinery for the supply and recirculation of coating materials under pressure.

Type C

NEN-EN 50059:2016 2e Ontw. en

€ 29.20

NEN-EN 50131-2-2:2017**Alarmsystemen - Inbraak- en overvalsystemen - Deel 2-2: Inbraakdetectoren - Passief infrarooddetectoren**

NEN-EN 50131-2-2 is for passive infrared detectors installed in buildings and provides for security grades 1 to 4 (see EN 50131-1), specific or non-specific wired or wire-free detectors, and uses environmental classes I to IV (see EN 50130-5). This European Standard does not include requirements for passive infrared detectors intended for use outdoors. It is essential that a detector fulfils all the requirements of the specified grade. Functions additional to the mandatory functions specified in this standard may be included in the detector, providing they do not influence the correct operation of the mandatory functions. This European Standard does not apply to system interconnections.

Type C

NEN-EN 50131-2-2:2017 en

€ 74.30

NEN-EN 50223:2015**Stationaire elektrostatische sputinstallaties voor brandbaar vlok materiaal - Veiligheidseisen**

NEN-EN 50223 specifies requirements for automatic electrostatic flock application equipment which is designed for applying ignitable flock which may form explosive atmospheres in the flock application area. In this context a distinction is made between flock application devices which due to their type of construction comply with the requirements as laid down in EN 50050-3, as applicable, and those for which higher discharge energies are stipulated. This European Standard also specifies the constructional requirements for a safe operation of the stationary equipment of flock application booths, including the electrical installations and the accessories. This European Standard deals with all significant hazards, hazardous situations and events relevant to flock application booths, when they are used as intended and under conditions which are foreseeable as malfunction by the manufacturer.

Type C 2006/42/EG Geverifieerd

NEN-EN 50223:2015 en

€ 86.00

NEN-EN 50348:2010**Stationaire elektrostatische sputtapparatuur voor niet-brandbare vloeistoffen - Veiligheidseisen**

This European Standard specifies the requirements for stationary electrostatic application equipment for non-ignitable liquid coating materials which do not generate an explosive atmosphere inside the spraying area. A distinction is made between spraying systems corresponding to EN 50050 and spraying systems designed for higher discharge energies and/or currents. This European Standard also specifies the design-related requirements for a safe operation of the stationary equipment, including its electrical installations. This European Standard considers two types of electrostatic spraying systems, see 5.1 for more details. Noise has not been dealt with in this standard as it is not considered to be a significant hazard of stationary electrostatic application equipment for non-ignitable liquid coating material. For any other health protection, see EN 12215:2004, 5.5. For fire prevention and protection (e. g. fire hazards due to other sources), see also EN 12215:2004, 5.7.1. This European Standard deals with all significant hazards, hazardous situations and events, which are relevant for stationary electrostatic application equipment for non-ignitable liquid coating and cleaning materials which do not generate an explosive atmosphere inside the spraying area, provided they are used as intended by the manufacturer.

Type C 2006/42/EG Geverifieerd

NEN-EN 50348:2010 en

€ 49.30

NEN-EN 50434:2014**Veiligheid van huishoudelijke en soortgelijke toestellen - Bijzondere eisen voor op het lichtnet aangesloten houtbrekers en versnipperaars**

NEN-EN 50434 specifies safety requirements and their verification for the design and construction of hand fed, shredders/chippers with integral electric motor, not exceeding 250 V single phase, with or without vacuum assisted collection which are designed to reduce organic material to smaller pieces and are used in a stationary position by an operator standing on the ground. This standard applies to shredders/chippers with feed intake openings or segments, in this standard referred to as feed safety openings that in total will fit into a square of 250 mm x 250 mm. In this European Standard shredders and chippers are referred to collectively as machine(s). This European Standard does not cover requirements for - machines powered by combustion engines; NOTE 1 Combustion engine driven machines are covered by EN 13683. - machines driven by an external power source or by battery power; - machines with powered discharge intended to broadcast material or load vehicles; - machines with mechanically powered feed intake or attachments; - wood chippers for agricultural, lawn and park and forestry use; - machines powered from a 3 phase supply. This European Standard deals with all significant hazards presented by shredders/chippers when they are used as intended and under conditions of misuse which are reasonably foreseeable. EMC and environmental aspects, except noise, have not been considered in this European Standard. This European Standard is not applicable to machines which are manufactured before the date of publication of this document by CENELEC.

Type C 2006/42/EG Geverifieerd

NEN-EN 50434:2014 en

€ 86.00

NEN-EN 50580:2012**Veiligheid van handgereedschap met elektrische aandrijving - Bijzondere eisen voor sputtpistolen**

This clause of Part 1 is applicable except as follows: Addition: This European Standard applies to spray guns for non-flammable materials.

Type C 2006/42/EG Geverifieerd

NEN-EN 50580:2012 en

€ 49.30

NEN-EN 50580:2012/A1:2013**Veiligheid van handgereedschap met elektrische aandrijving - Bijzondere eisen voor sputtpistolen**

Type C 2006/42/EG Geverifieerd

NEN-EN 50580:2012/A1:2013 en

€ 16.10

NEN-EN 50636-2-91:2014

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-91: Bijzondere eisen voor gazontrimmers waar je achter loopt, gazontrimmers die je in de hand hebt en graskanttrimmers

NEN-EN 50636-2-91 specifies safety requirements and their verification for the design and construction of electric powered walk-behind and hand-held lawn trimmers and lawn edge trimmers, with cutting element(s) of non-metallic filament line or freely pivoting non-metallic cutter(s), with a kinetic energy of not more than 10 J each, used by a standing operator for cutting grass, their rated voltage being not more than 250 V for a.c. or 75 V d.c.. specifies safety requirements and their verification for the design and construction of electric powered walk-behind and hand-held lawn trimmers and lawn edge trimmers, with cutting element(s) of non-metallic filament line or freely pivoting non-metallic cutter(s), with a kinetic energy of not more than 10 J each, used by a standing operator for cutting grass, their rated voltage being not more than 250 V for a.c. or 75 V d.c..

Type C 2006/42/EG Geharmoniseerd

NEN-EN 50636-2-91:2014 en

€ 74.30

NEN-EN 50636-2-92:2014

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-92: Bijzondere eisen voor met de hand voortbewogen grasmatverluchters en aanbouwcultivators

NEN-EN 50636-2-92 specifies safety requirements and their verification for the design and construction of pedestrian controlled walk-behind mains operated scarifiers and aerators, hereinafter referred to as 'machine(s)', which are designed for re-generating lawns by, for instance, combing out grass, thatch and moss or cutting vertically into the lawn face using tines which rotate about a horizontal axis. This standard applies in conjunction with Part 1. specifies safety requirements and their verification for the design and construction of pedestrian controlled walk-behind mains operated scarifiers and aerators, hereinafter referred to as 'machine(s)', which are designed for re-generating lawns by, for instance, combing out grass, thatch and moss or cutting vertically into the lawn face using tines which rotate about a horizontal axis. This standard applies in conjunction with Part 1.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 50636-2-92:2014 en

€ 86.00

NEN-EN 50636-2-94:2014

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-94: Bijzondere eisen voor grasscharen

NEN-EN 50636-2-94 specifies safety requirements and their verification for the design and construction of electric powered hand-held scissors type grass shears with a maximum cutting width of 200 mm designed primarily for cutting grass, their rated voltage being not more than 250 V for a.c. or 75 V d.c. In this European Standard the term "machine" means "electric powered scissors type grass shear". This European Standard does not apply to hedge trimmers as covered by EN 60745-2-15. Requirements for chargers are covered by EN 60335-2-29:2004. Requirements for batteries are covered by EN 62133:2003. EMC and environmental aspects except for noise have not been considered in this European Standard. This European Standard deals with all the significant hazards presented by hand-held scissors type grass shears when they are used as intended and under conditions of misuse which are reasonably foreseeable.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 50636-2-94:2014 en

€ 74.30

NEN-EN 50636-2-100:2014

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-100: Bijzondere eisen voor op het net aangesloten handgereedschap voor tuinblazers, tuinstofzuigers en stofzuigerblazercombinaties

NEN-EN 50636-2-100 specifies the safety requirements and their verification for the design and construction of hand-held mains-operated electrical garden vacuums, and garden blower/vacuums with or without shredding means and garden blowers, hereinafter referred to as machine(s), for use at and around the home or for similar purposes, their rated voltage being not more than 250 V single phase. This European Standard does not apply to: - machines powered by combustion engines; - machines driven by an external power source; - machines powered from a 3 phase supply; - vacuum cleaners intended primarily for use indoors, for water suction cleaning or animal grooming; walk-behind, hand-guided (support-wheeled) and ride-on machines; - combination of a mains driven and/or battery powered blowers and vacuums with internal combustion engines (hybrid); - back-pack powered blowers and back-pack powered vacuums. EMC and environmental aspects, except noise, have not been considered in this standard. This European Standard deals with all the significant hazards presented by hand-held mains-operated electrical garden vacuums, garden blower/vacuums with or without shredding means and garden blowers when they are used as intended and under conditions of misuse which are reasonably foreseeable. This European Standard is not applicable to machines, which are manufactured before the date of publication of this document by CENELEC.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 50636-2-100:2014 en

€ 74.30

NEN-EN 50636-2-107:2015

Veiligheid van huishoudelijke en soortgelijke toestellen - Deel 2-107: Bijzondere eisen voor elektrisch aangedreven robotgrasmaaiers met accu

NEN-EN 50636-2-107 specifies safety requirements and their verification for the design and construction of robotic battery powered electrical rotary lawnmowers and their peripherals with the rated voltage of the battery being not more than 75 V d.c. charged by mains electrical and/or alternative energies, e.g. solar power. This European Standard does not apply to non-robotic machines such as lawn trimmers, lawn edge trimmers, lawn edgers, ride-on lawnmowers or pedestrian controlled lawnmowers. This European Standard is not applicable to EMC and environmental hazards (except noise). This European Standard does not apply to internal combustion engine(s), hybrid and fuel cell powered machines and associated charging systems. This European Standard deals with all the significant hazards presented by battery powered robotic lawnmowers and their peripherals when they are used as intended and under conditions of misuse which are reasonably foreseeable. This European Standard is not applicable to machines, which are manufactured before the date of publication of this document by CENELEC.

Type C 2006/42/EG Geharmoniseerd

NEN-EN 50636-2-107:2015 en

€ 98.50

NEN-EN-IEC 60204-31:2013

Veiligheid van machines - Elektrische uitrusting van machines - Deel 31: Bijzondere veiligheids- en EMC-eisen voor naaimachine-eenheden en -systemen

This part of IEC 60204 applies to the application of electrical and electronic equipment to sewing machines, units and systems, designed specifically for professional use in the sewing industry. The equipment covered by this part commences at the point of connection of the supply to the electrical equipment of the machine (see 5.1). This part is applicable to the electrical equipment or parts of the electrical equipment which operate with nominal supply voltages not exceeding 1 000 V for alternating current and not exceeding 1 500 V for direct current, and with nominal frequencies not exceeding 200 Hz. It does not cover all the requirements (e.g. guarding, interlocking, control) that are necessary to safeguard persons from hazards other than electrical hazards and which are specified in other standards. This part applies to sewing units and systems which are installed in dry and well-kept clean locations and which process dry sewing material, as in the clothing industry. Where sewing units and systems are used in other than dry and well-kept clean locations, more stringent measures can be necessary, which need to be agreed between manufacturer and customer. The noise emission of electrical and electronic equipment for sewing machines is not considered to be a relevant hazard. Therefore this standard does not contain any specific requirements on noise.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60204-31:2013 en

€ 126.80

NEN-EN-IEC 60335-2-8:2015

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-8: Bijzondere eisen voor scheertoestellen, tondeuses en soortgelijke toestellen

NEN-EN-IEC 60335-2-8 is replaced by the following. This International Standard deals with the safety of electric shavers, hair clippers and similar appliances intended for household and similar purposes, their rated voltage being not more than 250 V. Appliances not intended for normal household use, but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops and on farms, are within the scope of this standard. As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account - persons (including children) whose - physical, sensory or mental capabilities; or - lack of experience and knowledge prevents them from using the appliance safely without supervision or instruction; - children playing with the appliance.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-8:2015 en

€ 63.40

NEN-EN-IEC 60335-2-8:2015/A1:2016

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-8: Bijzondere eisen voor scheertoestellen, tondeuses en soortgelijke toestellen

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-8:2015/A1:2016 en

€ 9.06

NEN-EN-IEC 60335-2-77:2010

Veiligheid van huishoudelijke en soortgelijke elektrische toestellen - Deel 2-77: Bijzondere eisen voor via het net aangedreven grasmaaiers met meelopende bestuurder

This clause of Part 1 is replaced by the following. This European Standard specifies safety requirements and their verification for the design and construction of pedestrian controlled walk-behind electrically powered lawnmowers. This standard applies in conjunction with EN 60335-1. This European Standard does not apply to - lawn trimmers, lawn edge trimmers, lawn edgers, flail mowers, scrub cutters, automatic (robot) lawn mowers, sickle-bar mowers, agricultural mowers, trailing seat/sulky units, ride-on machines or nonpowered lawnmowers - rotary lawnmowers for which the cutting means is a generally circular central drive unit on which is mounted, either one or more non-metallic filaments or one or more non-metallic, pivotally mounted cutting elements. These cutting elements rely on centrifugal force to achieve cutting, with the kinetic energy of a single cutting element not exceeding 10 J, - battery powered lawnmowers with a rated voltage of the battery more than 42 V d.c. Requirements for battery chargers, including those incorporated into the machine are dealt with in EN 60335-2-29. This European Standard is not applicable to lawnmowers, which are manufactured before the date of publication of this document by CENELEC.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-77:2010 en

€ 244.54

NEN-EN-IEC 60335-2-89:2010/A1:2016

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-89: Bijzondere eisen voor commerciële diepvriestoestellen met ingebouwde of gescheiden opgestelde koeleenheden

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60335-2-89:2010/A1:2016 en

€ 18.11

NEN-EN-IEC 60335-2-89:2010/A2:2017

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-89: Bijzondere eisen voor commerciële diepvriestoestellen met ingebouwde of gescheiden opgestelde koeleenheden

Type C

NEN-EN-IEC 60335-2-89:2010/A2:2017 en

€ 9.06

NEN-EN-IEC 60335-2-102:2016

Huishoudelijke en soortgelijke elektrische toestellen - Veiligheid - Deel 2-102: Bijzondere eisen voor branders met elektrische connectoren op gas, olie en vaste brandstoffen tel en/of recycling koelmiddelen van airconditionering en apparatuur voor koelmiddelen

NEN-EN-IEC 60335-2-102 deals with the safety of gas, oil and solid-fuel burning appliances having electrical connections, for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances. The electrical safety and some other safety aspects of these appliances are also covered. All safety aspects are covered when the appliance also complies with the relevant standard for the fuel-burning appliance. If the appliance incorporates electric-heating sources, it also has to comply with the relevant part 2 of IEC 60335. Examples of appliances within the scope of this standard are: central heating boilers; commercial catering equipment; cooking appliances; laundry and cleaning appliances; room heaters; warm air heaters; water heaters.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60335-2-102:2016 en

€ 108.68

NEN-EN-IEC 60519-1:2015

Veiligheid van installaties van elektrowarmte en elektromagnetische bewerking - Deel 1: Algemene eisen

NEN-EN-IEC 60519-1 specifies general safety requirements for industrial installations or equipment intended for electroheating (EH) and electroheating based treatment technologies as well as for electromagnetic processing of materials (EPM). The requirements are applicable to industrial installations or equipment with the possible use as: - equipment for direct and indirect resistance heating, - equipment for electric resistance trace heating, - equipment for induction heating, - equipment using the effect of electromagnetic forces on materials, - equipment for arc heating, including submerged arc heating, - equipment for electroslag remelting, - equipment for plasma heating and plasma surface treatment, - equipment for microwave heating, - equipment for dielectric heating, - equipment using electron guns, - equipment for infrared radiation heating, - equipment for laser heating. The overall safety requirements for the various types of EH or EPM equipment and installations result from the joint application of the General Requirements specified in this standard and Particular Requirements covering specific types of installations or equipment (guidelines are given in Annex G). If no Particular Requirement is covering a specific installation or equipment, the General Requirements are applicable as such.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60519-1:2015 en

€ 289.82

NEN-EN-IEC 60745-2-3:2011

Handgereedschap motoraandrijvende elektrisch gereedschap - Deel 2-3: Bijzondere eisen voor slijpmachines, polijstmachines en schijfschuurmachines

This standard applies to grinders, polishers and disk-type sanders, including angle, straight and vertical tools, with a rated capacity not exceeding 230 mm. For grinders, the rated speed does not exceed a peripheral speed of the accessory of 80 m/s at rated capacity. This standard does not apply to dedicated cut-off machines which are covered by IEC 60745-2-22. This standard does not apply to random-orbit polishers and random-orbit sanders which are covered by IEC 60745-2-4.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60745-2-3:2011 en

€ 271.71

NEN-EN-IEC 60745-2-3:2011/A11:2014

Handgereedschap motoraandrijvende elektrisch gereedschap - Deel 2-3: Bijzondere eisen voor slijpmachines, polijstmachines en schijfschuurmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60745-2-3:2011/A11:2014 en

€ 17.55

NEN-EN-IEC 60745-2-3:2011/A12:2014

Handgereedschap motoraandrijvende elektrisch gereedschap - Deel 2-3: Bijzondere eisen voor slijpmachines, polijstmachines en schijfschuurmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60745-2-3:2011/A12:2014 en

€ 17.55

NEN-EN-IEC 60745-2-3:2011/A13:2015

Handgereedschap motoraandrijvende elektrisch gereedschap - Deel 2-3: Bijzondere eisen voor slijpmachines, polijstmachines en schijfschuurmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60745-2-3:2011/A13:2015 en

€ 17.55

NEN-EN-IEC 60745-2-3:2011/A2:2013

Handgereedschap motoraandrijvende elektrisch gereedschap - Deel 2-3: Bijzondere eisen voor slijpmachines, polijstmachines en schijfschuurmachines

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 60745-2-3:2011/A2:2013 en

€ 18.11

NEN-EN-IEC 60745-2-6:2010

Handgereedschap met motoraandrijving - Veiligheid - Deel 2-6: Speciale eisen voor hamers

This clause of Part 1 is applicable, except as follows: Addition: This standard applies to hammers. Tools covered by this standard include but are not limited to percussion and rotary hammers.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-6:2010 en

€ 58.87

NEN-EN-IEC 60745-2-12:2009

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-12: Speciale eisen voor betontrilmachines

This clause of Part 1 is applicable, except as follows: Addition: This standard applies to concrete vibrators.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-12:2009 en

€ 36.23

NEN-EN-IEC 60745-2-13:2009

Handgereedschap met motoraandrijving - Veiligheid - Deel 2-13: Speciale eisen voor kettingzagen

This standard applies to chain saws for cutting wood and designed for use by one person. This standard does not cover chain saws designed for use in conjunction with guide-plate and riving knife or in any other way such as with a support or as a stationary or transportable machine.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-13:2009 en

€ 181.14

NEN-EN-IEC 60745-2-15:2009

Handgereedschap met elektrische aandrijving - Deel 2-15: Bijzondere eisen voor heggescharen

This clause of Part 1 is applicable, except as follows: : This standard applies to hedge trimmers which are designed for use by one operator for trimming hedges and bushes, utilizing one or more linear reciprocating cutter blades. This standard is not applicable to hedge trimmers with a rotating blade.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-15:2009 en

€ 126.80

NEN-EN-IEC 60745-2-15:2009/A1:2010

Handgereedschap met elektrische aandrijving - Deel 2-15: Bijzondere eisen voor heggescharen

Type C

NEN-EN-IEC 60745-2-15:2009/A1:2010 en

€ 9.06

NEN-EN-IEC 60745-2-16:2010

Handgereedschap met elektrische aandrijving - Deel 2-16: Speciale eisen voor nietpistolen

This clause of Part 1 is applicable, except as follows: Addition: This standard applies to tackers intended for general use. This standard does not apply to tackers intended for industrial production applications.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-16:2010 en

€ 63.40

NEN-EN-IEC 60745-2-18:2009

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-18: Speciale eisen voor omsnoeringsgereedschap

This clause of Part 1 is applicable, except as follows: Addition: This standard applies to strapping tools.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-18:2009 en

€ 22.64

NEN-EN-IEC 60745-2-19:2009

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-19: Speciale eisen voor voegmachines

This clause of Part 1 is applicable, except as follows: 1.1 Addition: This standard applies to jointers for cutting into wood or similar material.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-19:2009 en

€ 36.23

NEN-EN-IEC 60745-2-19:2009/A1:2010

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-19: Speciale eisen voor voegmachines

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-19:2009/A1:2010 en

€ 9.06

NEN-EN-IEC 60745-2-20:2009

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-20: Speciale eisen voor bandzagen

This clause of Part 1 is applicable, except as follows: Addition: This standard applies to band saws.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-20:2009 en

€ 22.64

NEN-EN-IEC 60745-2-21:2009

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-21: Speciale eisen voor doorsteekapparaten

This clause of Part 1 is applicable, except as follows: Addition: This standard applies to drain cleaners.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-21:2009 en

€ 22.64

NEN-EN-IEC 60745-2-22:2011

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-22: Speciale eisen voor snijmachines

This clause of Part 1 is applicable as follows: Addition: This standard applies to cut-off machines fitted with - one bonded reinforced wheel of Type 41 or Type 42, or - one or more diamond cut-off wheels with the peripheral gaps, if any, not exceeding 10 mm and with - a rated speed not exceeding a peripheral speed of the wheel of 100 m/s at rated capacity and - a rated wheel capacity range of 55 mm to 410 mm. These machines are intended to cut materials such as metals, concrete, masonry, glass and tile. This standard does not apply to: - grinders, sanders, or polishers, even if they can be converted to a cut-off machine, which are covered by IEC 60745-2-3; - circular saws which are covered by IEC 60745-2-5.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-22:2011 en

€ 126.80

NEN-EN-IEC 60745-2-22:2011/A11:2013

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-22: Speciale eisen voor snijmachines

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-22:2011/A11:2013 en

€ 34.66

NEN-EN-IEC 60745-2-23:2013

Handgereedschap met elektrische aandrijving - Veiligheid - Deel 2-23: Speciale eisen voor slijpmachines met opspanmechanisme en klein draaiend gereedschap

This standard applies to die grinders and small rotary tools for mounted accessories not exceeding 55 mm in diameter and mounted sanding accessories not exceeding 80 mm in diameter such as - threaded cones or plugs that are threaded on a mandrel with an unrelieved shoulder flange, - mandrel mounted wheels, and - rotary files with a rated speed not exceeding a peripheral speed of the accessory of 80 m/s at rated capacity. This standard does not apply to straight and vertical grinders utilizing flanges for driving an abrasive accessory. Those tools are covered by IEC 60745-2-3.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60745-2-23:2013 en

€ 90.57

NEN-EN-IEC 60947-5-3:2013

Laagspanningsschakelaars - Deel 5-3: Stuurstroomkringen en schakelelementen - Eisen voor naderingselementen met een vastgesteld gedrag onder storingsomstandigheden

This part of IEC 60947 series provides additional requirements to those given in IEC 60947-5-2. It addresses the fault performance aspects of proximity devices with a defined behaviour under fault conditions (PDDB). It does not address any other characteristics that can be required for specific applications. This standard does not cover proximity devices with analogue output. This Standard does not deal with any specific requirements on acoustic noise as the noise emission of control circuit devices and switching elements is not considered to be a relevant hazard. For a PDDB used in applications where additional characteristics, dealt with in other standards, are required, the requirements of all relevant standards apply. The use of this standard alone does not demonstrate suitability for the implementation of any specific safety related functionality. In particular, this standard does not provide requirements for the actuation characteristics of a PDDB, or for means to reduce the effects of mutual interference between devices, e.g. coded targets. Therefore these and any other application-specific requirements will need to be considered in addition to the requirements of this standard.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60947-5-3:2013 en

€ 153.97

NEN-EN-IEC 60947-5-5:1998/A11:2013

Laagspanningsschakelaars - Deel 5-5: Stuurstroomkringen en schakelelementen - Elektrische noodstopinrichting met mechanische vergrendelingsfunctie

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 60947-5-5:1998/A11:2013 en

€ 17.55

NEN-EN-IEC 60947-5-5:1998/A2:2017

Laagspanningsschakelaars - Deel 5-5: Stuurstroomkringen en schakelelementen - Elektrische noodstopinrichting met mechanische vergrendelingsfunctie

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 60947-5-5:1998/A2:2017 en

€ 63.40

NEN-EN-IEC 61029-1:2009/C11:2010

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 1: Algemene eisen

This standard applies to electric motor-operated or magneticallydriven tools, intended for indoor and for outdoor use, which have all the following characteristics: a) easily moved by one person, simple devices to facilitate transportation may be incorporated, e.g. handles, wheels and the like; b) used in a safe stationary position with or without fixing, e.g. fast clamping devices, bolting and the like; c) used under the control of an operator; d) not intended for continuous production or production line use; e) intended to be connected to electric supply by a flexible cord and a plug; f) maximum rated voltage not exceeding 250 V single-phase, a.c. or d.c., or 440 V three-phase, a.c.; g) maximum rated input not exceeding 2 500 W, for single-phase a.c. or d.c., and 4 000 W for three-phase a.c.

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-1:2009/C11:2010 en

€ 0.00

NEN-EN-IEC 61029-2-3:2011

Veiligheid van verplaatsbare elektrisch gereedschap met motoraandrijving - Deel 2-3: Bijzondere eisen voor schaafmachines en vandiktebanken

This clause of Part 1 is applicable except as follows: Addition: This European Standard applies to planers, thicknessers and combined planers and thicknessers intended for cutting wood and analogous materials with a maximum planing width of 330 mm.

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-2-3:2011 en

€ 66.82

NEN-EN-IEC 61029-2-5:2011

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 2-5: Bijzondere eisen voor bandzagen

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-2-5:2011 en

€ 36.23

NEN-EN-IEC 61029-2-5:2011/A11:2015

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 2-5: Bijzondere eisen voor bandzagen

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-2-5:2011/A11:2015 en

€ 17.55

NEN-EN-IEC 61029-2-8:2010

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 2-8: Bijzondere eisen voor verticale deegwalsen met enkele spil

This clause of part 1 is applicable except as follows: Modification: Replace the first paragraph by: This International Standard applies to transportable single spindle vertical moulders with a maximum cutter block diameter of 180 mm, as defined in 2.101

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-2-8:2010 en;fr

€ 153.97

NEN-EN-IEC 61029-2-11:2012

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 2-11: Bijzondere eisen voor gecombineerde verstek- en werkbankzagen

This European Standard applies to transportable combined mitre and bench saws with a saw blade diameter not exceeding 315 mm and intended for cutting wood and analogous materials, plastics and nonferrous metals except magnesium.

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-2-11:2012 en

€ 36.23

NEN-EN-IEC 61029-2-11:2012/A11:2013

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 2-11: Bijzondere eisen voor gecombineerde verstek- en werkbankzagen

Type C 2006/42/EG Gevergrendeld

NEN-EN-IEC 61029-2-11:2012/A11:2013 en

€ 17.55

NEN-EN-IEC 61029-2-12:2011

Veiligheid van verplaatsbaar elektrisch gereedschap met motoraandrijving - Deel 2- 12: Bijzondere eisen voor draadsnijmachines

This standard applies to machines for creating external threads that either rotate the work piece or the cutting head.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 61029-2-12:2011 en

€ 63.40

NEN-EN-IEC 61496-1:2013

Machineveiligheid - Aanrakingsvrije elektrische beveiligingsinrichtingen - Deel 1: Algemene eisen en beproevingen

IEC 61496-1 specifies general requirements for the design, construction and testing of non-contact electro-sensitive protective equipment (ESPE) designed specifically to detect persons as part of a safety related system. Special attention is directed to functional and design requirements that ensure an appropriate safety-related performance is achieved. An ESPE may include optional safety-related functions, the requirements for which are given in Annex A. The particular requirements for specific types of sensing function are given in other parts of this standard. This standard does not specify the dimensions or configuration of the detection zone and its disposition in relation to hazards in any particular application, nor what constitutes a hazardous state of any machine. It is restricted to the functioning of the ESPE and how it interfaces with the machine. While a data interface can be used to control optional safety-related ESPE functions, this standard does not provide specific requirements. Requirements for these safety-related functions can be determined by consulting other standards (for example, IEC 61508, IEC/TS 62046, IEC 62061, and ISO13849-1). This standard may be relevant to applications other than those for the protection of persons, for example for the protection of machinery or products from mechanical damage. In those applications, different requirements can be necessary, for example when the materials that have to be recognized by the sensing function have different properties from those of persons. This standard does not deal with electromagnetic compatibility (EMC) emission requirements.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 61496-1:2013 en

€ 244.54

NEN-EN-IEC 61800-5-2:2017

Regelbare elektrische aandrijfsystemen - Deel 5-2: Veiligheidseisen - Functioneel

NEN-EN-IEC 61800-5-2, which is a product standard, specifies requirements and makes recommendations for the design and development, integration and validation of safety related power drive systems (PDS(SR)) in terms of their functional safety considerations. It applies to adjustable speed electrical power drive systems covered by the other parts of the IEC 61800 series of standards as referred in IEC 61800-2. This International Standard is applicable where functional safety of a PDS(SR) is claimed and the PDS(SR) is operating mainly in the high demand or continuous mode (see 3.15) While low demand mode operation is possible for a PDS(SR), this standard concentrates on high demand and continuous mode. Safety sub-functions implemented for high demand or continuous mode can also be used in low demand mode. Requirements for low demand mode are given in IEC 61508 series. Some guidance for the estimation of average probability of dangerous failure on demand (PFDavg) value is provided in Annex F. This part of IEC 61800 sets out safety-related considerations of PDS(SRs) in terms of the framework of IEC 61508, and introduces requirements for PDS(SRs) as subsystems of a safety-related system. It is intended to facilitate the realisation of the electrical/ electronic/ programmable electronic (E/E/PE) parts of a PDS(SR) in relation to the safety performance of safety sub-function(s) of a PDS. Manufacturers and suppliers of PDS(SRs) by using the normative requirements of this part of IEC 61800 will indicate to users (system integrator, original equipment manufacturer) the safety performance for their equipment. This will facilitate the incorporation of a PDS(SR) into a safety-related control system using the principles of IEC 61508, and possibly its specific sector implementations (for example IEC 61511, IEC 61513, IEC 62061 or ISO 13849). By applying the requirements from this part of the IEC 61800 series, the corresponding requirements of IEC 61508 that are necessary for a PDS(SR) are fulfilled. This part of IEC 61800 does not specify requirements for: - the hazard and risk analysis of a particular application; - the identification of safety sub-functions for that application; - the initial allocation of SILs to those safety sub-functions; - the driven equipment except for interface arrangements; - secondary hazards (for example from failure in a production or manufacturing process); - the electrical, thermal and energy safety considerations, which are covered in +IEC 61800-5-1; - the PDS(SR) manufacturing process; - the validity of signals and commands to the PDS(SR). - security aspects (e.g. cyber security or PDS(SR) security of access) This part of IEC 61800 only applies to PDS(SRs) implementing safety sub-functions with a SIL not greater than SIL 3. Figure 1 shows the installation and the functional parts of a PDS(SR) that are considered in this part of IEC 61800 and shows a logical representation of a PDS(SR) rather than its physical description.

Type C

NEN-EN-IEC 61800-5-2:2017 en

€ 271.71

NEN-EN-IEC 62841-1:2015

Draagbaar handgereedschap met elektrische aandrijving en gras- en tuinmachines - Veiligheid - Deel 1: Algemene eisen

NEN-EN-IEC 62841-1 deals with the safety of electric motor-operated or magnetically driven: - hand-held tools (IEC 62841-2); - transportable tools (IEC 62841-3); - lawn and garden machinery (IEC 62841-4). The above listed categories are hereinafter referred to as "tools" or "machines". The rated voltage is not more than 250 V for single-phase a.c. or d.c. tools, and 480 V for three-phase a.c. tools. The rated input is not more than 3 700 W. The limits for the applicability of this standard for battery tools are given in K.1 and L.1. This standard deals with the hazards presented by tools which are encountered by all persons in the normal use and reasonably foreseeable misuse of the tools. Tools with electric heating elements are within the scope of this standard. Requirements for motors not isolated from the supply, and having basic insulation not designed for the rated voltage of the tools, are given in Annex B. Requirements for rechargeable battery-powered motor-operated or magnetically driven tools and the battery packs for such tools are given in Annex K. Requirements for such tools that are also operated and/or charged directly from the mains or a non-isolated source are given in Annex L. Hand-held electric tools, which can be mounted on a support or working stand for use as fixed tools without any alteration of the tool itself, are within the scope of this standard and such combination of a hand-held tool and a support is considered to be a transportable tool and thus covered by the relevant Part 3.

Type C 2006/42/EG Geverifieerd

NEN-EN-IEC 62841-1:2015 en

€ 316.99

NEN-EN-IEC 62841-2-2:2014

Draagbaar handgereedschap met elektrische aandrijving en gras- en tuinmachines - Veiligheid - Deel 2-2:

Bijzondere eisen voor handbediende schroevendraaiers en moersleutels

NEN-EN-IEC 62841-2-2 applies to screwdrivers and impact wrenches. This standard does not apply to drills that can be used for driving screws by attaching screwdriver bits

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-2:2014 en;fr

€ 63.40

NEN-EN-IEC 62841-2-4:2014

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 2-4: Speciale eisen voor schuurmachines en polijstmachines anders dan schijfschuurmachines

NEN-EN-IEC 62841-2-4 applies to hand-held sanders and polishers with the exception of disc-type tools covered by IEC 62841-2-3. Tools covered by this standard include but are not limited to belt sanders, drum sanders or polishers, reciprocating sanders or polishers, orbital sanders or polishers, and random orbit sanders or polishers.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-4:2014 en

€ 90.57

NEN-EN-IEC 62841-2-5:2014

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 2-5: Speciale eisen voor cirkelzagen

NEN-EN-IEC 62841-2-5 applies to hand-held circular saws, which hereinafter will be referred to as saws. This standard does not apply to saws designed for use with abrasive wheels.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-5:2014 en;fr

€ 217.37

NEN-EN-IEC 62841-2-8:2016

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 2-8: Bijzondere eisen voor plaatscharen en knibbelscharen

NEN-EN-IEC 62841-2-8 applies to hand-held shears and nibblers.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-8:2016 en

€ 63.40

NEN-EN-IEC 62841-2-9:2015

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 2-9: Bijzondere eisen voor tappers en snij-ijszers

NEN-EN-IEC 62841-2-9 applies to hand-held tappers and threaders

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-9:2015 en

€ 90.57

NEN-EN-IEC 62841-2-11:2016

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 2-11: Bijzondere eisen voor reciprozaggen (decoupeerzaggen en sabelzaggen)

NEN-EN-IEC 62841-2-11 applies to reciprocating saws such as jig saws and sabre saws.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-11:2016 en

€ 126.80

NEN-EN-IEC 62841-2-14:2015

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 2-14: Speciale eisen voor schaafmachines

This clause of NEN-EN-IEC 62841-2-14 is applicable, except as follows: Addition: This part of IEC 62841 applies to planers.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-2-14:2015 en

€ 90.57

NEN-EN-IEC 62841-3-1:2014

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-1: Bijzondere eisen voor verplaatsbare tafelzagen

NEN-EN-IEC 62841-3-1 applies to transportable table saws with - a toothed single blade; or - stacked blades that cut a single groove or slot; or - a moulding head cutter intended for cutting wood and analogous materials, plastics and nonferrous metals except magnesium with a saw blade diameter between 105 mm and 315 mm, which hereinafter may simply be referred to as saw or tool. This standard does not apply to table saws intended to cut other metals, such as magnesium, steel and iron. This standard does not apply to table saws with an automatic feeding device. This standard does not apply to saws designed for use with abrasive wheels.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-3-1:2014 en

€ 217.37

NEN-EN-IEC 62841-3-4:2016

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-4: Bijzondere eisen voor verplaatsbare slijpmachines

NEN-EN-IEC 62841-3-4 applies to transportable bench grinders that can be equipped with one or two accessories as follows: - type 1 grinding wheels in accordance with ISO 603-4:1999 with a diameter not exceeding 310 mm and a thickness not exceeding 55 mm; - wire brushes with a diameter not exceeding 310 mm and a thickness not exceeding 55 mm; - polishing wheels with a diameter not exceeding 310 mm; and with a peripheral speed of any accessory between 10 m/s and 50 m/s.

Type C

NEN-EN-IEC 62841-3-4:2016 en

€ 126.80

NEN-EN-IEC 62841-3-4:2016/C1:2017

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-4: Bijzondere eisen voor verplaatsbare slijpmachines

Type C

NEN-EN-IEC 62841-3-4:2016/C1:2017 en

€ 0.00

NEN-EN-IEC 62841-3-6:2014

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-1: Bijzondere eisen voor verplaatsbare diamantboren met watervoorziening

NEN-EN IEC 62841-3-6 applies to transportable diamond drills, intended to be connected to a liquid system. Liquid system may include liquid from a pipe or container.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-3-6:2014 en

€ 90.57

NEN-EN-IEC 62841-3-9:2015/C2:2016

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-9: Bijzonder eisen voor draagbare verstekzaag

Type C

NEN-EN-IEC 62841-3-9:2016/C2:2016 en

€ 0.00

NEN-EN-IEC 62841-3-9:2016

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-9: Bijzonder eisen voor draagbare verstekzaag

NEN-EN-IEC 62841-3-9 applies to transportable mitre saws intended to be used with a toothed saw blade for cutting wood and analogous materials, plastics and nonferrous metals except magnesium with a saw blade diameter not exceeding 360 mm, which hereinafter might simply be referred to as saw or tool. This standard does not apply to mitre saws intended to cut other metals, such as magnesium, steel and iron. This standard does not apply to mitre saws with an automatic feeding device.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-3-9:2016 en

€ 181.14

NEN-EN-IEC 62841-3-10:2016

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-10: Speciale eisen voor verplaatsbare snijmachines

NEN-EN-IEC 62841-3-10 applies to transportable cut-off machines intended to cut materials such as metals, concrete and masonry and to be fitted with one abrasive - bonded reinforced wheel of Type 41, or - diamond cut-off wheel with the peripheral gaps, if any, not exceeding 10 mm and with - a rated no-load speed not exceeding a peripheral speed of the wheel of 100 m/s with the maximum wheel diameter and - a wheel diameter range of 250 mm to 410 mm. This standard does not apply to: - transportable mitre saws; - transportable tile saws; - transportable metal saws.

Type C 2006/42/EG Geharmoniseerd

NEN-EN-IEC 62841-3-10:2016 en

€ 153.97

NEN-EN-IEC 62841-3-13:2017

Elektrisch aangedreven handgereedschap, verplaatsbaar gereedschap en gras- en tuinmachines - Veiligheid - Deel 3-13: Bijzondere eisen voor verplaatsbare boren

NEN-EN-IEC 62841-3-13 applies to transportable drills, with manually fed axial movement of the spindle, having a maximum chuck capacity of 13 mm. This part of IEC 62841 does not apply to stationary drilling machines. This part of IEC 62841 does not apply to radial arm drills. This part of IEC 62841 does not apply to magnetic drill stands and drill motors.

Type C

NEN-EN-IEC 62841-3-13:2017 en

€ 181.14

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