Guide to Standards - Workplace Health & Safety

Your snapshot of Australian Standards® and Certification

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Introduction

This guide provides information on Standards, Certification schemes and other industry specific information that can be used by organisations to manage areas relating to Workplace Health and Safety (WHS) including risk management, slip hazards, evacuation of buildings, safety and ergonomics.

The publications recommended in this guide provide a framework for organisations with Workplace Health and Safety (WHS) and related obligations. Using these Standards may help your organisation implement robust and compliant systems and processes, based on industry 'good practice'.

All WHS authorities, with the exception of those in Victoria and Western Australia have enacted the Australian Government's **Work Health and Safety Act 2011 No.137** and the **Work Health and Safety Regulations 2011 No.262**.

To find out what the WHS Acts mean, and the differences between the old and new legislation, you can refer to the '**Sherriff's Work Health & Safety Law Guide**' which provides a plain English explanation of the Acts and Regulations written by one of the architects of the Acts, Barry Sherriff. For more information on this service please contact Customer Service on:
PHONE: 131 242 (Press 1)
EMAIL: sales@saiglobal.com

Disclaimer: The information contained in these pages is provided by way of indicative guidance only and SAI Global Limited does not represent that it is accurate or complete or suitable for any particular specific purposes. The onus remains with users to satisfy themselves of their requirements and needs for their own particular circumstances.

SAI Global WHS Resources

Work Place Health and Safety Management Plans

A WHS Management Plan is useful for Contractors and Sub-Contractors and is a requirement of the Work Health & Safety Regulations 2011 (s309, Part 6.4) for construction projects over $250,000. The Plan has been developed by Safety Culture Pty Ltd in accordance with the Work Health & Safety Act 2011 and Work Health & Safety Regulations 2011.

To help you maintain compliance and safely manage your construction sites, the Work Health and Safety Management Plan provides the basis for building your own tailored organisational plan. It includes many documents, including:

- WHS Roles and Responsibilities
- SWMS Checklist
- Site Induction Checklist
- Plant Hazard Checklist
- Plant and Equipment Register
- Incident Report Form
- Emergency Plan

OH&S Management Plan (OHSMP)

The **OHS Management Plan** (OHSMP) is the Victorian version of the WHS Management Plan (WHSMP), as Victoria is not bound by the harmonised WHS laws. As a result, this plan is written according to the Occupational Health & Safety Act 2004 and Occupational Health & Safety Regulations 2007.

OHSMP, also commonly called a Site Safety Management Plan or Construction Site Safety Plan, includes all the foundation documents you need to safety and efficiently manage your site. Suitable for construction or earthmoving sites. An OHSMP is a requirement for Principal Contractors or contractors with contracts valued at more than $250,000.

The **OHSMP** is supplied in fully customisable, MS Word template format. It includes all the foundation documents that you need to safely and efficiently manage your site, such as:

- OH&S Manual
- OH&S Site Management Plan
- OH&S Emergency Plan
- Hazardous works modules.

Safe Work Method Statements

The Model Work Health and Safety Regulation 2011 and Model Work Health and Safety Act 2011 require those working in building and construction industries to prepare **Safe Work Method Statements** (SWMS).

SWMS are fully editable templates documenting processes for identifying and controlling different types of health and safety risks.

SAI Global Information Services publishes approximately 400 SWMS covering a variety of topics and can help to:

- Identify work that is high risk construction work
- Specify hazards relating to construction work
- Specify risks to health and safety associated with those hazards
- Describe how the risk control measures are to be implemented, monitored and reviewed.

SWMS can be purchased as packages, or they can be purchased individually from the **InfoStore**. SWMS may also be unlocked from Online Subscriptions. Please contact our Major Accounts Team at **major.accounts@saiglobal.com**) if you require further information on Online Subscriptions.

Packages of SWMS are available for the areas described below:

- **Construction/Subcontractors WHS Management System**
- **Work Health Safety and Environment Management System**
- **Industrial and Manufacturing WHS Management System**
- **Office, Retail & Real Estate WHS Management System**
- **OHS in Design Plan – Victoria**
- **Tradies WHS Management System**
- **Tradies OHS Management System**

The SWMS available to those working in the building and construction industry are extensive. Some of the most commonly used topics covered by SWMS are discussed throughout this guide. You can also shop for SWMS by following the links below:

- **Concrete**

- **Timber**
- **Steel**
- **Brick Work**
- **Tiling (Roof, Wall and Resilient Tiling)**

Please consult our publications '**Guide to Standards – Building and Construction**' and '**Guide to Standards – Architecture**' for comprehensive information on Standards for those working in building, construction and related industries.

SH&E Monitor

With over 10,000+ potential obligations with up to 1,500 changes a year, staying on top of your Safety, Health and Environment obligations can be overwhelming.

Our **Safety, Health and Environment (SH&E) Monitor** is a unique and comprehensive regulatory tracking and update service for SH&E compliance and risk management, that takes the headache out of managing your obligations.

The SH&E Monitor is focused on the impacts of regulatory change to specific business processes and provides you with guidance for their application.

SH&E Monitor is easily deployed across your organisation and gives staff the power to customise the service to meet their individual needs, based on their roles and responsibilities. Through email updates, staff are notified when changes in the SH&E regulatory environment occur.

Please contact the Regulatory Knowledge team for more detailed information on the SHE Monitor, including registering for a **free trial of our SHE Monitor Service**.
PHONE: 131 242
EMAIL: **enquiry.asiapac@saiglobal.com**

Environment, Health & Safety (EH&S) Compliance Management

SAI Global's **Cintellate™ EH&S Software** can help to improve your EH&S related business processes by allowing you to better utilize the collective intelligence of your staff. Complex objectives and targets are broken down into clearly defined processes and simple steps which are easier to comprehend and accomplish at an individual level. When these individual efforts are combined, they can achieve exceptional results.

It can help organisations to:

- Define a consistent model for all operational business processes
- Demonstrate an auditable trail of action in completing EH&S activities and tasks
- Provide real-time information for decision-making
- Report metrics and performance relative to organizational targets
- Release staff from manual tasks so they can apply their expertise to higher value projects

Please contact the **Compliance Division** for more detailed information on the **Cintellate™ EH&S Software** available:
PHONE: 1300 513 107
EMAIL: enquiry.asiapac@saiglobal.com

WHS Online Training & Awareness

The SAI Global **Online Compliance & Ethics learning to improve compliance** provides information on WHS policies, procedures, values and best practice principles to widely dispersed employees and business partners consistently. Full tracking and reporting gives you proof of completion for audit purposes.

Please contact the **Compliance Division** for more detailed information on the OH&S training solutions available:
PHONE: 1300 513 107
EMAIL: enquiry.asiapac@saiglobal.com

The SAI Global **Environment, Health & Safety Software** provides a framework for managing EH&S performance as well as a central repository for all of your preventative and reactive data. Please contact the **Compliance Division** for more information on this software:
PHONE: 1300 513 107
EMAIL: enquiry.asiapac@saiglobal.com

Management Standards

This part of the guide provides information on workplace health and safety, quality, integrated management, environmental and risk management Standards. Detailed information on auditing requirements for different types of management systems is available to purchasers of the International Standard **ISO 19011:2011, Guidelines for auditing management systems.**

Please consult our **Good Management Practice Guide** for detailed information on different types of management Standards.

Workplace Health and Safety Management Standards

WHS Australian and International Workplace Health and Safety management Standards enable organisations to formulate policies, taking into account legislative requirements and processes used to manage different types of health and safety risks.

Our packages of Safe Work Methods Statements (SWMS) provide ideal solutions for those required to implement Workplace Health and Safety management Standards within their organisation.

Australian Workplace Management Standards

AS/NZS 4801:2001, Occupational health and safety management systems – Specification with guidance for use sets out requirements for an occupational health and safety management system (OHSMS). This Standard assists organisations with:

- clarification and registration of an OHSMS for certification;
- implementation, maintenance and improvement of an WHSMS;
- assurance and conformance with its stated WHS policy; and
- demonstrating compliance to WHS regulations.

Information on procedures that can be followed to develop, manage and implement an WHS management system to **AS/NZS 4801:2001** is included in **AS/NZS 4804:2001, Occupational health and safety management systems – General guidelines on principles, systems and supporting techniques**.

A step-by step guide to developing, modifying, implementing and reviewing WHS Management systems can be found in **HB 211-2001, Occupational health and safety management systems – A guide to AS 4801 for small business**. **CD 4801 PLUS-2006, WHSMS Health and Safety) CD Plus** includes an editable version of the checklists and forms included in **HB 211-2001** as well as **AS/NZS 4801:2001** and **AS/NZS 4804:2011**.

International Workplace Management Standards

SR WHSAS 18001:2007, Occupational Health and Safety Management Systems – Requirements is an international Standard which defines requirements for an occupational health and safety management system, to enable an organisation to control its OH&S risks and improve its OH&S performance. The commentary to this Standard is included in **SR WHSAS 18002:2008, Occupational Health and Safety Management Systems – Guidelines for the Implementation of WHSAS 18001:2007**.

Recording Workplace Injuries

Workplace injuries can be recorded and coded by the following the information that is included in:

- **AS 1885.1-1990, Measurement of occupational health and safety performance – Describing and reporting occupational injuries and diseases (known as the National Standard for workplace injury and disease recording)**
- **AS 1885.1-1990 Supp 1-1991, Measurement of occupational health and safety performance - Describing and reporting occupational injuries and disease - Workplace injury and disease recording form (Supplement to AS 1885.1-1990)**
- **MP 58-1991, Workplace injury and disease recording Standard – Resource kit**

Information on methods used to calculate loss-time injuries are also included in these Standards.

Environmental Management Systems

The Australian/New Zealand environmental management certification standard is **AS/NZS ISO 14001:2004, Environmental management systems – Requirements with guidance for use**. It specifies requirements for an Environmental Management System (EMS) to enable an organization to develop and implement objectives which take into account requirements about significant environmental aspects.

Useful information is also included in the Standards below:

- **AS/NZS ISO 14004:2004, Environmental management systems – General guidelines on principles, systems and support techniques.**
- **AS/NZS ISO 14015:2003, Environmental management – Environmental assessment of sites and organizations (EAS0)**

AS/NZS ISO 14001:2004 and **AS/NZS ISO 14004:2004** are also available in a **Set**.

Other Related Environmental Management Publications

- **ISO 14031:2013, Environmental management - Environmental performance evaluation – Guidelines**
- **AS/NZS ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework**

- AS ISO 14050-1999, Environmental Management – Vocabulary.
- ISO 14044:2006, Environmental management - Life cycle assessment - Requirements and guidelines
- ISO/TR 14047:2012, Environmental management - Life cycle assessment - Illustrative examples on how to apply ISO 14044 to impact assessment situations
- ISO/TR 14049:2012, Environmental management - Life cycle assessment - Illustrative examples on how to apply ISO 14044 to goal and scope definition and inventory analysis
- AS/NZS 19011:2011, Guidelines for auditing management systems.

Risk Management

AS/NZS 31000:2009 and SA/SNZ HB 436:2013

Those requiring comprehensive information on risk management should follow guidelines set out in Purchasers of this product will receive **AS/NZS ISO 31000:2009, Risk management – Principles and guidelines** and **SA/SNZ HB 436:2013 (Guideline to AS/NZS ISO 31000:2009, Risk management guidelines – Companion to AS/NZS 31000:2009**. These products are also available as a **Set**.

Safe Work Method Statements prepared by those working in building, construction and related injuries should be based on the principles and practices described in the above publications. Those responsible for implementing risk management systems should prepare and implement risk management matrices. Detailed information on different types of risk management matrices are now included in **SA/SNZ HB 436:2013**.

Other Related Publications

- SA/SNZ HB 89:2013, Risk management – Guidelines on risk assessment techniques
- HB 158:2010, Risk management – Guidelines on risk assessment techniques
- HB 327:2010, Communicating and consulting about risk
- IEC/ISO 31010 Ed 1.0, Risk management – Risk assessment techniques

The SAI Global **Global Legislative, Regulatory and Compliance & Ethics News** service helps identify Standards, legislation and regulation that impact your business which can be key to identifying and managing risk. Please contact the **Information Services Division – Regulatory** for more information on this service:
PHONE: 131 242
EMAIL: info.regulatory@saiglobal.com

Asset Management

Those responsible for managing assets can use techniques described in the International Organization for Standardization (ISO) risk management Standards listed below:

- ISO 55000:2014, Asset management – Overview, principles and terminology
- ISO 55001:2014, Asset management – Management systems – Requirements
  (Note: This is a management system certification standard)
- ISO 55002:2014, Asset management – Management systems – Guidelines for the application of ISO 55001

Working at Heights

This section of the guide provides information on Standards and **Safe Work Method Statements** that should be followed by those working at heights. Persons working at heights in building, construction

and related industries can prepared Safe Work Method Statements (SWMS) by following the information contained in **S8.2.12.0131, Safe Work Method Statement – Working At Heights**.

Working on Roofs (General Information)

Some general information on safety requirements for those working on roofs is included in the publication **HB 39-1997 Installation Code for Metal Roof and Wall Cladding**.

Safe Work Method Statements

Safe Work Methods Statements (SWMS) for persons working on roofs can be prepared by following the information included in the publications below:

- **S8.1.12.0225, Safe Work Method Statement – Roofs – Work On**
- **S8.1.12.0223, Safe Work Method Statement – Roofs – Roof Tiling**

Fixed Ladders, Platforms, Walkways, Stairway and Guardrails

AS 1657-2013, Fixed platforms, walkways, stairways and ladders – Design, construction and installation establishes requirements for the design, selection, construction and installation of fixed platforms, walkways, stairways and ladders that are intended to provide safe access to places used by operation, inspection, maintenance and servicing personnel. The Standard is useful for those working on roofs and persons engaged to operate, inspect and maintain machinery.

A detailed outline of the differences between the **1992** and **2013** editions of **AS 1657** is included in the preface of the up-dated Standard.

Safe Work Method Statements – Stairs

Those responsible for installing stairs in different types of buildings can prepare Safe Work Method Statements by following the information that is included in **S8.1.12:0252, Safe Work Method Statements – Stairs, balustrades and hand rails**.

Portable Ladders and Step Ladders

Portable ladders and step ladders manufactured from the materials listed below should be tested to appropriate Standards. General guidelines are included in **AS/NZS 1892.5:2000, Portable ladders – Selection, safe use and care**.

- Metal ladders – **AS/NZS 1892.1:1996, Portable ladders – Metal**
- Timber Ladders – **AS 1892.2-1992, Portable ladders – Timber**
- Plastic Ladders – **AS/NZS 1892.3:1996, Portable ladders – Reinforced Plastic**

Safe Work Method Statements

Persons using portable ladders can prepare Safe Work Method Statements by using the information that is included in **S8.2.12.0153, Safe Work Method Statement - Ladders**.

Scaffolding

Scaffolding work platforms are generally classified with light, medium and heavy duty ratings. Scaffolding should be designed by following the information contained in the **AS/NZS 1576, Scaffolding Series** of Standards.

Scaffolding should be erected, installed and dismantled by following the details that are included in **AS/NZS 4576:1995. Guidelines for scaffolding**.

Platforms used by those working at heights on residential buildings can also be designed by using the information that is included in **AS 6001-1999, Working platforms for housing construction**.

Safe Work Method Statements

There are two SWMS for persons working with different types of scaffolding platforms:

- **S812.0386, Safe Work Method Statement – Scaffolding – Modular – Erecting**
- **S812.0387, Safe Work Method Statement – Scaffolding – Use of**

Demolition of Structures

AS 2601-2001, The Demolition of Structures Sets out guidance on a range of controlled demolition methods for use by planners, owners, engineers, contractors and other interested parties for the planning and execution of demolition of structures.

Edge Protection Systems for Residential Buildings

The **AS/NZS 4994, Temporary edge protection Series** of Standards provides detailed information on requirements for different types of edge protection systems. **AS 1657-2013, Fixed platforms, walkways, stairways and ladders - Design, construction and installation** also provides information on edge protection details for different types of platforms and walkways.

Edge Protection Systems for Non-Residential Buildings

Those working at heights in non-residential buildings can obtain information on appropriate edge protection systems by using the information contained in **AS 1657-2013, Fixed platforms, walkways, stairways and ladders – Design, construction and installation**.

Safe Work Method Statements

Persons using edge protection systems on roofs can prepare Safe Work Method Statements by using the information that is included in the publication **S8.2.12.0228. Safe Work Method Statement – Roof – Edge Protection**.

Harness, Lanyards, Lifelines, Fall Arrest Devices and Anchorage Points

Manufacturing Standards for harnesses, lanyards, anchorage points, horizontal lifelines and fall-arrest devices are included in the Standards below.

These types of products can be selected, used and maintained by following the information that is included in **AS/NZS 1891.4:2009, Industrial fall-arrest systems and devices – Selection, use and maintenance.**

Harnesses and Lanyard

- **AS/NZS 1891.1:2007, Industrial fall-arrest systems and devices – Harnesses and ancillary equipment**

Roof Anchorage Points

- **AS/NZS 5532:2013, Manufacturing requirements for single-point anchor device used for harness-based work at height**

Horizontal Lifelines

- **AS/NZS 1891.2:2001, Industrial fall-arrest systems and devices – Horizontal lifelines and rail systems**
- **AS/NZS 1892.2 Supp 1:2001, Industrial fall-arrest systems and devices – Horizontal lifelines and rail systems – Prescribed configurations for horizontal lifelines (Supplement to AS/NZS 1891.2:2001)**

Fall-Arrest Devices

- **AS/NZS 1891.3:1997, Industrial fall-arrest systems and devices – Fall-arrest devices**

Safety Harnesses

- **S8.2.12.0229, Safe Work Method Statement – Safety Harness**

Anchorage Points

- **S812.0327, Safe Work Method Statement – Anchorage Point Installations**

Ropes

Information for industrial ropes, wire ropes, synthetic and fibre ropes, is included below. There are also SWMS for those using industrial ropes.

Industrial Rope Access Systems

Manufacturing requirements for industrial rope access systems are included in **ASNZS 4488.1:1997, Industrial rope access systems – Specifications**. Industrial ropes can be then be selected, used and maintained by following the information that is included in **AS/NZS 4488.2:1997, Industrial rope access systems – Selection, use and maintenance.**

Safe Work Method Statement

- **S8.2.12.0142, Safe Work Method Statement – Industrial Rope Access**

Steel Wire Ropes

Information on maintenance and selection requirements for steel wire ropes is available in **AS 2759-2004, Steel wire ropes – Use, operation and maintenance**. The manufacturing Standard for steel wire ropes is **AS 3569-2010, Steel wire ropes – Product specification**. Steel wire used to manufacture ropes should be manufactured to **AS 1394-2001, Round steel wire for ropes**.

Fibre Ropes for Rescue Lines

Fibre ropes used with rescue lines for persons working at heights should be maintained by following **AS 4142.1-1993, Fibre ropes – Care and safe usage.**

AS 4142.3-1993, Fibre ropes – Man-made fibre rope for static life rescue lines. Test methods for fibre ropes are included in the **AS 4143, Methods of test for fibre ropes Series** of Standards.

Plant Equipment

Information on safe guarding and risk assessments requirements for machinery and plant equipment are listed below.

Machinery Safety

All types of machinery with moving parts are required to be guarded by following the information that is included in the **AS 4024, Safety of machinery Series** of machinery safety Standards. Risk assessments can also be undertaken by using **EN 12100:2010, Safety of machinery – General principles for design – Risk assessment and risk reduction**..

Light curtains are commonly used to guard different types of machinery. The term ‘electro-sensitive protective devices’ is commonly used to describe requirements for light curtains used with machinery. Light curtains should be installed by using the information that is included in **AS 4024.4-1998, Safeguarding of machinery – Installation and commissioning requirements for electro-sensitive devices – Pressure-sensitive devices**.

Machinery that is not guarded correctly may present entrapment hazards. Diagrams and dimensions indicating distances between persons and accessible parts of machinery are included in the Standards listed below:

- **AS 4024.1801-2006, Safety of machinery – Safety distances to prevent danger zones being reached for the upper limbs**
- **AS 4024.1802-2006, Safety of machinery – Safety distances and safety gaps – Safety distances to prevent danger zones being reached by upper and lower limbs**
- **AS 4024.1803-2006. Safety of machinery – Safety distances and safety gaps – Safety distances to prevent danger zones being reached by the lower limbs**

Safety categories for control systems used with machinery can be determined by using the information that is included in **AS 4024.1501-2006, Safety of machinery – Design of safety related parts of control systems – General principles for design** and **AS 4024.1502-2006, Safety of machinery – Design of safety related parts of control systems – Validation.**

Programmable controllers used with machinery should comply to the requirements described in **AS 62061-2006, Safety of machinery – Functional safety of safety-electrical, electronic and programmable electronic control systems** and the **AS 61508, Functional safety of electrical/electronic/programmable electronic safety Series** of Standards.

Safe Work Method Statement

Persons working with machinery can prepare Safe Work Method Statements by using the information that is included in **S8.2.12.0307, Safe Work Method Statement – Plant and Machinery – Working Around**.

Stairs, Walkways and Ladders Used to Access and Operate Machinery

AS 1657, Fixed platforms, walkways, stairways and ladders - Design, construction and installation can be used to design, manufacture and maintain stairs, walkways and ladders used by persons required to operate different types of machinery.

Conveyors

Detailed information on safety and guarding requirements for conveyors is included in **AS 1755-2000, Conveyors – Safety requirements**. Conveyors used in mines may also need to be tested to **AS 4606-2012, Grade S fire resistant and antistatic requirements for conveyor belting and conveyor accessories.**

Guarding requirements for conveyors can also be determined by following the information contained in the **AS 4024, Safety of machinery Series**.

Power Presses

Safety and guarding requirements for different types of hydraulic and mechanical presses are included in **AS 1219-1994, Power presses – Safety requirements**.

Commonwealth and State Workplace Health and Safety Regulators may still require presses to conform to the requirements of this Standard.

- **AS 4024.3001-2009. Safety of machinery – Materials forming and shearing – Mechanical power presses**
- **AS 4024.3002-2009, Safety of machinery – Materials forming and shearing – Hydraulic power presses.**

Cranes

Inspection, Operational and Maintenance

All major inspections (e.g. 10 year inspections) for different types of cranes should be completed by using the information that is included in **AS 2550.1-2011, Cranes, hoists and winches – Safe use – General requirements**.

Minor inspections for the types of cranes listed below are also required to be completed to appropriate

Standards. These Standards cross-reference information that is included in **AS 2550.1**. The **AS 2550, Cranes, hoists and winches – Safe use Series** of Standards are also available as a **Set.**

Design and Manufacturing Standards

The **AS 1418, Cranes, hoists and winches Series** of Standards provides information on design and manufacturing Standards for different types of cranes and hoists. The Standards in this series are available in a **Set**. Those responsible for designing cranes may also need to apply the information that is included in the Standards listed below:

Related Structural Engineering Standards

- **AS/NZS 1170.0:2002, Structural design actions – General principles**
- **AS/NZS 1170.1:2002, Structural design actions – Permanent, imposed and other actions**
- **AS/NZS 1170.2:2011, Structural design actions – Wind actions**
- **AS 3990-1993, Mechanical equipment – Steelwork**
- **AS 4100-1998, Steel Structures**

Related Electrical Safety Standards

- **AS 1418.12-1991. Cranes (including hoists and winches) – Crane collector systems**
- **AS/NZS 3000:2007, Electrical installations (known as the Australian/New Zealand Wiring Rules)**
- **AS/NZS 3100:2009, Approval and test specification – General requirements for electrical equipment**
- **AS 60204.1-2005. Safety of machinery – Electrical equipment of machines – General requirements**
- **AS 60947, Low-voltage switchgear and controlgear Series** of Standards
- **IEC 60204-32 Ed 2.0, Safety of machinery – Electrical equipment of machines – Part 32: Requirements for hoisting machines**

Related Mechanical Engineering Standards

- **AS 1403-2004, Design of rotating steel shafts**
- **AS 2318-2006, Swivels for lifting applications**
- **AS 2321-2006, Short-link chain for lifting purposes**
- **AS 2938-1993, Gears – Spur and helical – Guide to specification and rating**
- **AS 3990-1993, Mechanical equipment – Steelwork**.

Safe Work Method Statements

Safe Work Method Statements for different types of cranes supplied with boom lifts is **S8.2.12.0029, Safe Work Method Statement – Boom Lift.**

Lifting devices (including spreader bars, spreader beams and lifting magnets) used with cranes should be designed, manufactured and inspected by using the information contained in **AS 4991-2004, Lifting devices.**

Mobile Elevating Work Platforms (Also Known As Scissor Lifts)

Inspection, Operation and Maintenance Standards

- **AS 2550.10-2006, Cranes, hoists and winches – Safe use – Mobile elevating work platforms**

Design and Manufacturing Standards

- AS/NZS 1418.10;2011, Cranes, hoists and winches – Mobile elevating work platforms

Safe Work Method Statement

- S8.2.13.0177, Safe Work Method Statement – Overhead Crane
- S8.2.12.0048. Safe Work Method Statement – Cherry Picker - MEWP

Mobile Cranes

Inspecting, Operating and Maintaining Mobile Cranes

- AS 2550.5-2002, Cranes, hoists and winches – Safe use – Mobile cranes

Designing and Manufacturing Mobile Cranes

- AS 1418.5-2013, Cranes, hoists and winches – Mobile cranes (Note: The previous 2002 edition of the Standard may still be referenced in Commonwealth, State and Territory Workplace Health and Safety laws)

Safe Work Method Statement

- S8.2.13.0172. Safe Work Method Statement – Mobile Crane

Vehicle Loading Cranes (Also Known As Tractor Mounted Cranes)

Inspecting, Operating and Maintaining Vehicle Loading Cranes

- AS 2550.11-2004, Cranes, hoists and winches – Safe use – Vehicle-loading cranes

Designing and Manufacturing Vehicle Loading Cranes

- AS 1418.11-2007, Cranes, hoists and winches – Vehicle-loading cranes

Safe Work Method Statement

- S8,1,12,0133, Safe Work Method Statement –Hiab or Truck Loading Crane

Bridge and Gantry Cranes

Inspection, Operating and Maintaining Bridge and Gantry Cranes

- AS 2550.3-2002, Cranes, hoists and winches – Safe use – Bridge, gantry, portal (including container cranes, jib and monorail cranes

Designing and Manufacturing Bridge and Gantry Cranes

- AS 1418.3-1997, Cranes, hoists and winches – Bridge, gantry, portal (including container cranes) and jib cranes

Safe Work Method Statement

- S8.1.12.0117, Safe Work Method Statement - Gantry Crane
- S813.0412, Safe Work Method Statement – Crane – Wharf Mounted

Tower Cranes

Inspection, Operating and Maintaining Tower Cranes

- AS 2550.4-2004, Cranes, hoists and winches – Safe use – Tower cranes
- AS 2550.20-2005, Cranes, hoists and winches – Safe use – Self-erecting tower cranes

Designing and Manufacturing Tower Cranes

- AS 1418.4-2004, Cranes, hoists and winches – Tower cranes

Safe Work Method Statement

- S8.1.12.0272, Safe Work Method Statement – Tower Crane

Builders Hoists

Inspection, Operating and Maintaining Builders Hoists

- AS 2550.7-1996, Cranes – Safe use – Builders' hoists and associated equipment

Designing and Manufacturing Builders Hoists

- AS 1418.7-1999, Cranes (including hoists and winches) – Builders hoists and associated equipment

Telescopic Handlers (Forklift Trucks with Telescopic Booms)

Inspection, Operating and Maintaining Telescopic Handlers

- AS 2550.19-2007, Cranes, hoists and winches – Telescopic handlers

Concrete Placing Equipment (Trailer Mounted Concrete Pumps)

Inspecting, Operating and Maintaining Concrete Placing Equipment

- AS 2550.15-1994, Cranes – Safe use – Concrete placing equipment

Designing and Manufacturing Concrete Placing Equipment

- AS 1418.15-1994, Cranes (including hoists and winches) – Concrete placing equipment

Safe Work Method Statements

- S8.1.12.0065, Safe Work Method Statement – Concrete Pumping

Building Maintenance Units

Designing and Manufacturing Building Maintenance Units

- AS 1418.13-1996, Cranes (including hoists and winches) – Building maintenance units

Inspecting, Operating and Maintaining Building Maintenance Units

- AS 2550.13-1997, Cranes – Safe use – Building maintenance units

Serial Hoists

Designing and Manufacturing Serial Hoists

- **AS 1418.2-1997, Cranes (including hoists and winches) – Serial hoists**

Work Boxes

Designing and Manufacturing Work Boxes

- **AS 1418.17-1996, Cranes (including hoists and winches) – Design and installation of workboxes**

Cranes Operating in Harsh Conditions

Designing and Manufacturing Cranes Operating in Harsh Conditions

- **AS 1418.14-1996, Cranes (including hoists and winches) – Requirements for cranes subject to arduous working conditions**

Safe Work Method Statements

Useful information may be included in the Safe Work Method Statements for plant and machinery **S8.2.12.0091, Safe Work Method Statement – Plant and Machinery – Working Around**.

Industrial Trucks (Fork Lifts)

There are a number of Australian, International (ISO) and European (EN) Standards covering requirements for different types of industrial trucks. SAI Global Information Services also supplies Safe Work Method Statements that may be used by those operating and repairing industrial trucks. Guarding requirements for forklifts can also be determined by following the information contained in the **AS 4024, Safety of machinery Series** of machinery safety Standards.

Australian Standards

Detailed information on design, safety and operational requirements for industrial trucks is included in the **AS 2359, Powered industrial trucks Series** of Standards:

- **AS 2359.2-2013, Powered industrial trucks – Operation**
- **AS 2359.6-2013, Powered industrial trucks – Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks**
- **AS 2359.14-2005, Powered industrial trucks – Fork arms – Technical characteristics and testing**
- **AS 2359.15-2005, Powered industrial trucks – Fork-arm extensions and telescopic fork arms – Technical characteristics and general requirements**

For those responsible for repairing industrial trucks may find useful information included in the Standards below:

- **AS 4973-2001, Industrial trucks – Inspection and repair of fork arms in service and fork-lift trucks**
- **AS 4983-2010, Gas fuel systems for forklifts and industrial engines**

International Standards

There are number of **ISO** Standards for different types of industrial trucks. A number of these Standards have been harmonized as European (CE) Standards.

European Standards

Manufacturers of industrial trucks are commonly based in Asia and their products may have been tested to appropriate **European** (also known as CE Standards). The most commonly used suite of European Standards for fork lifts is the **EN ISO 3691, Industrial Trucks - Safety Requirements And Verification Series** of Standards.

Safe Work Method Statements

There are number of Safe Work Method Statements available covering risk assessment, safety and operational requirements for industrial trucks:

- **S8.1.12.0110, Safe Work Method Statement – Forklift Maintenance**
- **S8.2.13.0109, Safe Work Method Statement – Forklift – LPG**
- **S8.2.13.0111, Safe Work Method Statement – Forklift – Petrol Diesel**
- **S8.2.13.0112, Safe Work Method Statement – Forklifts – Electric – Non-Pedestrian**

Earth-Moving Machinery (Tractors)

General information on safety requirements for tractors used for agriculture and related industries is available within the **AS/NZS 2153, Tractors and machinery for agriculture and forestry Series** of Standards. Tractors and other types of earth-moving machinery should also be guarded by using the information that is included in the **AS 4024, Safety of machinery Series** of Standards.

Protective structures used with tractors and earth-moving machinery should be tested to the Standards listed below:

- **AS 1636 Series of Standards**
- **AS 2294.1-1997, Earth-moving machinery – Protective structures – General**
- **AS 2294.1, Supp 1-2003, Earth-moving machinery – Protective structures – General – Operator protective structures fitted to plant used in the timber industry – (forest operations) (Supplement to AS 2294.1-1997)**

Ladders, guardrails and walkways used to access earth-moving machinery should be designed to conform to the requirements of **AS 3868-1991, Earth-moving machinery – Design guide for access systems**.

International Standards

Commonly used **International** Standards detailing requirements for earth-moving machinery are listed below. A number of International Standards for earth-moving machinery are identical to European (CE) Standards.

- **ISO 6814:2009, Machinery for forestry – Mobile and self-propelled machinery – Terms, classifications and definitions**
- **ISO 6750:2005, Earth-moving machinery – Operator's manuals – Content and format**
- **ISO 10263, Earth-moving machinery – operator enclosure environment Series** of Standards
- **ISO 20474, Earth-moving machinery – Safety Series** of Standards

European Standards

Manufacturers of earth-moving machinery need to complete tests to European Standards for achieving CE compliance requirements for their products. Some of the most commonly used Standards for different types of earth-moving machinery include:

- **EN 474, Earth-moving Machinery – Safety Series** of Standards
- **EN ISO 3449:2008, Earth-moving machinery –Falling-Object Structures – Laboratory Tests and Performance Requirements**
- **NBN EN ISO 3471:2009, Earth-moving Machinery - Roll-over Protective Structures - Laboratory Tests And Performance Requirements**

Safe Work Method Statements

There are also Safe Work Method Statements that have been prepared for owners and operators of earth-moving machinery,

- **S8.1.12.0085, Safe Work Method Statement – Earth-moving equipment maintenance**
- **S8.1.12.0337, Safe Work Method Statement – Earthmoving equipment transport**
- **S8.1.12.0273, Safe Work Method Statement – Tractor Operation**
- **S8.1.12.0274, Safe Work Method Statement – Tractor Slashing**
- **S8,1,12,0275, Safe Work Method Statement – Tractor Slashing – Roadside**
- **S8.5.13.0027, Safe Work Method Statement – Bobcat – Skid-steer**
- **S8.4.13.0081, Safe Work Method Statement – Dozer**
- **S8.1.12.0338, Safe Work Method Statement - Excavator - Dogging**
- **S8..2.13..0099, Safe Work Method Statement – Excavator Attachment – Auger**
- **S8.1.12.0101 – Safe Work Method Statement – Excavator attachment – Hydraulic Rock Hammer**
- **S8.2.13.0015, Safe Work Method Statement - Auger**
- **S8,1,12,0102- Safe Work Method Statement – Rock Saw Wheel**
- **S8.1.12.0103- Safe Work Method Statement – Tree Shear**

Pressure Vessels

Information for low risk pressure vessels (e.g. compressors) and high risk (e.g. Unfired Pressure Vessels) types of pressure equipment is included below:

For risk assessment, design, manufacturing, operational, maintenance, testing and welding requirements for different types of pressure vessels, consider the information below:

Risk Assessments

- **AS 4343-2005, Pressure equipment – Hazard levels**

Design and Manufacturing

- **AS/NZS 1200:2000, Pressure equipment**
- **AS 1210-2010, Pressure vessels**
- **AS 2971-2007, Serially produced pressure vessels**

Imported pressure vessels with a low risk classification may also have been tested to the European Standard:

- **EN 286-1:1998, Simple Unfired Pressure Vessels Designed to Contain Air Or Nitrogen-Part 1: Pressure Vessels for General Purposes**

Operational and Maintenance (Pressure Vessels)

- **AS/NZS 3788:2006, Pressure equipment – In-service inspection**

Operational and Maintenance (Boilers)

- **AS 2593-2004, Boilers – Safety Management and Supervision Systems**

Non-Destructive Tests

- **AS 4037-1999, Pressure equipment – Examination and testing**

Welding

- **AS/NZS 3992:1998, Pressure equipment – Welding and brazing qualification**

Safe Work Method Statements

Safe Work Method Statements for electric and petrol/diesel operated compressors and boilers. See information below:

Compressors

- **S8.1.13.0376, Safe Work Method Statement – Air Compressor – Portable – Electric**
- **S8.2.13.0004, Safe Work Method Statement – Air Compressors – Portable – Petrol/Diesel**

Boilers

- **S8.1.12.0028, Safe Work Method Statement – Boiler Maintenance**

Amusement Devices

Different types of amusement devices have different requirements for design and construction and risk assessment. The information below should be considered:

Design, Construction and Risk Assessments (All Types of Amusement Devices)

- **AS 3533.1-2009, Amusement rides and devices – Design and construction**

Design and Construction – Jumping Castles

- **AS 3533.4.1-2005, Amusement rides and devices – Specific requirements – Land-borne inflatable devices**

Design and Construction - Contained Play Facilities

- **AS 3533.4.2-2013, Amusement rides and devices – Specific requirements – Contained play facilities.**

Other types of playground facilities used in public spaces should be designed to the requirements described in the **AS 4685, Playground equipment safety Series of Standards**. These Standards are also available in a **Set**.

Design and Construction – Roller Coasters

- **AS 3533.4.3-2007, Amusement rides and devices – Specific requirements – Roller coasters**

Design and Construction – Go Karts

- **AS 3533.4.4-2011, Amusement rides and devices – Specific requirements – Concession go-karts**

Design and Construction – Water Slides

- **AS 3533.4.5 (Int)-2012, Amusement rides and devices – Specific requirements – Waterborne inflatables**

Operation and Maintenance

- **AS 3533.2-2009, Amusement rides and devices – Operation and maintenance**

Inspection

- **AS 3533.3-2003 (R2013), Amusement rides and devices – In-service inspection**

Chainsaws

Information for both users and operators of chain saws is included below:

- **AS 2726, Chainsaws – Safety requirements Series**
- of Standards
- **AS 2727-1997, Chainsaws – Guide to safe working practices**

Safe Work Method Statements

- **S8.1.12.0046, Safe Work Method Statement - Chainsaw**

Planning for Emergencies

Requirements for evacuating non-healthcare and healthcare buildings are essential. Refer to the information listed below:

Healthcare Facilities

AS 4083-2010, Planning for emergencies - Healthcare facilities sets out the procedures for healthcare facilities in the planning for, and responses to, internal and external emergencies. It also specifies response colour codes for use in a specific emergency.

Non-Healthcare Buildings

AS 3745-2010, Planning for emergencies in facilities outlines the minimum requirements for the establishment, validation and implementation of an emergency plan for a facility to provide for the safety of occupants of that facility and its visitors leading up to, and during an evacuation.

Emergency Escape Lighting

Emergency luminaires (also known as exit signs) used in buildings should be designed, installed, located and maintained by following the information that is included in **AS 2293.1-2005, Emergency escape lighting and exit signs for buildings - System design, installation and operation** and **AS/NZS 2293.2:1995, Emergency evacuation lighting for buildings - Inspection and maintenance**.

An example of the 'Running Man' exit sign is included in **AS 2293.3-2005, Emergency escape lighting and exit signs for buildings – Emergency escape luminaires and exit signs**.

Security Industry

Information on Standards commonly used by those in security and related industries are listed below:

Closed Circuit Television Systems

Information for operators of Closed Circuit Television (CCTV) systems is included in **AS 4806.1-2006, Closed circuit television (CCTV) – Management and operation**. Also included in this Standard is information on training and screening requirements for personnel operating these types of systems.

Signalling and performance requirements for different types of CCTV systems are outlined in:

AS 4806.2-2006, Closed circuit television (CCTV) – Application guidelines

AS 4806.3-2006, Closed circuit television (CCTV) – PAL signal timings and levels

AS 4806.4-2008, Closed circuit television (CCTV) – Remote video

The **AS 4806, Closed circuit television (CCTV) Series** are all also available as **AS 4806 Set-2008**.

Intruder Alarms

Intruder alarm systems should conform to the requirements that are included in the **AS/NZS 2201, Intruder alarm systems Series** which are also available as **AS/NZS 2201 Set:2008**.

Security classification requirements for different types of intruder alarm systems and details on recommended environmental conditions for control rooms operating intruder alarm systems are included in **AS/NZS 2201.1-2007, Intruder alarm systems – Clients premises – Design, installation, commissioning and maintenance**.

Automatic Fire Detection and Emergency Intercommunication

Automatic fire detection systems located in different types of buildings should be designed, installed, operated and commissioned by following the information that is included in the publications listed below:

- **AS 1670.1-2004, Fire detection, warning, control and intercom systems - System design, installation and commissioning – Fire**
- **AS 1670.3-2004, Fire detection, warning, control and intercom systems – System design, installation and commissioning – Fire alarm monitoring**

Sound systems used with fire detection and EWIS systems should conform to the requirements that are outlined in **AS 1670.4-2004, Fire detection, warning, control and intercom systems - System design, installation and commissioning - Sound systems and intercom systems for emergency purposes**. Recommended noise levels for sound systems used with these types of systems are also included in this Standard.

Control equipment used with automatic fire detection and EWIS systems should be tested to the **AS 4428, Fire detection, warning, control and intercom systems Series**.

Fire Safety

Maintenance requirements for different types of fire protection equipment are described in **AS 1851-2012, Routine service of fire protection systems and equipment**

Fire protection requirements for mobile and transportable equipment can be determined by using the information contained in **AS 5062-2006, Fire protection for mobile and transportable equipment.**

Fire Hydrants

AS 2419.1-2005, Fire hydrant installations – System design, installation and commissioning

Fire Extinguishers and Fire Blankets

AS 2444-2001, Portable fire extinguishers and fire blankets – Selection and location

Automatic Fire Alarms

AS 1670.1-2004, Fire detection, warning, control and intercom systems – System design, installation and commissioning – Fire

Pumpsets

AS 2941-2008, Fixed fire protection installations – Pumpset systems

Fire Doors

AS 1905.1-2005, Components for the protection of openings in fire-resistant walls – Fire-resistant doorsets

Fire extinguishers

AS/NZS 1841, Portable fire extinguishers Series

AS/NZS 1850 2009, Portable fire extinguishers – Classification, rating and performance testing

Safe Work Method Statements

- **S813.0404, Safe Work Method Statement – Fire Sprinkler System – Automatic – Installation**
- **S8.1.12.0106, Safe Work Method Statement – Fire Door Installation**

Safe Work Lighting

Lighting Levels

Lighting levels for tasks undertaken in different types of environments is included in the **AS/NZS 1680, Interior lighting Series**.

Indoor Lighting

Specific information on recommended indoor lighting (lux) levels for different types of tasks is included in **AS/NZS 1680.1:2006, Interior and workplace lighting – General principles and recommendations** and lighting requirements for stairs and similar types of commonly used access areas are included in **AS/NZS 1680.2.1:2008, Interior and workplace lighting – Specific applications – Circulation spaces and other general areas**.

Outdoor Lighting

Recommended outdoor lighting levels for workplaces can be determined by following the information that is included in **AS/NZS 1680.5:2012, Interior and workplace lighting - Outdoor workplace lighting**.

Recommended floodlighting levels for residential, commercial and industrial areas is included in **AS 4282-1997, Control of the obtrusive effects of outdoor lighting**.

Information on lighting levels for open-top car parks is included in **AS/NZS 1158.3.1:2005, Lighting for roads and public spaces - Pedestrian area (Category P) lighting - Performance and design requirements**. Information on recommended lighting levels for roof-top car parks is included in **AS/NZS 1680.1:2006**.

Outdoor lighting levels for areas where different types of sporting and recreational activities are undertaken are included in the **AS 2560, Sports lighting Series** and **HB 49, Sporting Facilities Manual Series**.

Air Quality

Indoor air quality and contaminant levels for buildings can be determined by following the engineering methods described in **AS 1668.2-2012, The use of ventilation and airconditioning in buildings – Mechanical ventilation in buildings**. This Standard is based on determining airflow levels by using dilution indices. For information on minimum design requirements for natural ventilation systems for enclosures and requirements for the ventilation of car parks can be found in **AS 1668.4-2012, The use of ventilation and airconditioning in buildings – Natural ventilation of buildings**.

Previous editions to **AS 1668.2** may be enforced by Workplace Health and Safety regulators. Their contact details can be found in the **Regulators** section of this guide.

Those responsible for maintaining air handling systems can prepare **Safe Work Method Statements** by following the information contained in **S8.1.12.0006, Safe Work Method Statement – Air con maintenance.**

Slip Resistance

Information on pendulum and ramp (R) slip resistance tests for surfaces are included in **AS 4586-2013, Slip resistance classification of new pedestrian surface materials** and **AS 4663-2013, Slip resistance measurement of existing pedestrian surfaces**.

Information on recommended pendulum and ramp slip resistance ratings for areas in different types of is included in **HB 197:1999, An introductory guide to the slip resistance of pedestrian surface materials**. This Standard also includes a list of recommended pendulum and ramp slip resistance levels for stairs.

Ergonomics

Ergonomics can be broadly defined as the 'study and collection of data relating to people and their interactions with workplace environments'.

Concepts covering anthropometrics (physical sizing of the human body) and ergonomics are covered in **HB 59-1994, Ergonomics – The human factor – A practical approach to work systems design**. This Handbook deals with human physical capabilities, and physiological and work organizational factors. It also includes tables listing anthropometric estimates for British adults. Detailed information on commonly used display systems used with equipment and machinery located in workplaces is also included in **HB 59-1994**.

Office Environments

Good practices that should be followed when using the following types of equipment is included in:

- Workstations –Visual Display Units (VPU)
  AS 3590.1-1990, Screen-based workstations – Visual display units
- Workstations – Input devices such as keyboards and mouses
  AS 3590.3-1990, Screen-based workstations – Input devices
- Workstations – Panel systems
  AS/NZS 4443:1997, Office-panel systems – Workstations
- Office Desks
  AS/NZS 4442:1997, Office desks
- Office Chairs
  AS/NZS 4438:1997, Height adjustable swivel chairs

The **ISO 9241-300, Ergonomics of human-system interaction Series** cover requirements for new types of technologies and tasks that may be undertaken in different types of workstations using light-emitting diodes (LED), organic light-emitting diodes (OLED) and surface-condition electron-emitter displays (SED) technologies. The European editions of these Standards are included in the **I.S. EN ISO 9241-300 Series**.

Detailed information on methods that can be used to assess visual ergonomic requirements for different types of display systems is included in **ISO 9241-304:2008, Ergonomics of human-system interaction – Part 304: User performance test methods for electronic visual displays**.

Office environments should also have appropriate lighting levels, please see the **Lighting** section for more information.

Ventilation Standards

Information on ventilation levels for computer rooms and examples illustrating methods used to determine airflow levels for offices found in **AS 1668.2-2002, The use of ventilation and airconditioning in buildings – Ventilation design for indoor air contaminant control**.

Computer Control Centres

Unique environmental and ergonomic conditions apply to computer rooms and control centres and information on different environmental classes for these areas is included in **AS 2834-1995, Computer accommodation**. More recent information on recommended lighting, ventilation and acoustic requirements for different types of control centres is included in **I.S. EN ISO 11064-6:2005, Ergonomic design of control centres – Part 6: Environmental requirements for control centres**.

Hot and Cold Environments

Persons working in hot and cold environments can adopt different types of management strategies described in:

- **ISO 11079:2007, Ergonomics of the thermal environment - Determination and interpretation of cold stress when using required clothing insulation (IREQ) and local cooling effects** (identical to **I.S. EN ISO 11079:2007**)
- **ISO 12894:2001, Ergonomics of the thermal environment – Medical supervision of individuals exposed to extreme hot or cold environments** (identical to **I.S. EN ISO 12894:2001**)
- **ISO 15743:2008, Ergonomics of the thermal environment – Cold workplaces – Risk assessment and management** (identical to **I.S. EN ISO 15743:2008**)
- **I.S. EN 342:2004, Protective Clothing – Ensembles And Garments For Protection Against Cold**
- **ASTM F2732-09, Standard Practice for Determining the Temperature Ratings for Cold Weather Protective Clothing**
- **ISO 7243:1989, Hot environments – Estimation of the heat stress on working man, based on the WBGT-index (wet bulb globe temperature)**
- **ISO 15265:2004, Ergonomics of the thermal environment – Risk assessment strategy for the prevention of stress or discomfort in thermal working conditions**

Safety Signs

Workplace Safety Signs

Information on the types of safety signs and symbols described below is included in **AS 1319-1994, Safety signs for the occupational environment** and **ISO 7010:2011, Graphical symbols - Safety colours and safety signs - Registered safety signs**:

- Regulatory Signs
- Hazard Signs
- Emergency Information Signs
- Fire Signs
- Workplace Health and Safety Symbols

All signs are required to have colours conforming to the Munsell System that is included in **AS 2700-2011, Colour Standard for general purposes**. The hard copy edition of this Standard also includes a colour chart. A table listing designations for colours used to create different types of safety signs is included in **AS 1319-1994**.

Reflective properties for colour signs can be determined by following the methods described in **AS/NZS 1906.1:2007, Retroflective materials and devices for road traffic control purposes – Retroflective sheeting**.

AS 1318-1985, Use of colour for the marking of physical hazards and the identification of certain equipment in industry (known as the SAA Industrial Safety Colour Code) (incorporating Amdt 1) establishes requirements for the use of certain colours for the following:

- Marking of physical hazards
- Identification of equipment and machinery that may cause hazards in workplaces
- General signs

Typically, the principles described in this Standard apply in cases where different types of plant equipment (e.g. industrial trucks) may be used in workplaces. This Standard also includes a table listing different types of safety colours which are included in the colour chart that is supplied with the hard copy edition of **AS 2700-2011**.

For information on emergency escape exit signs, see the section **Lighting - Emergency Escape Lighting**.

Symbols for Pipelines, Conduits and Ducts

Pipelines, conduits and ducts should be marked by following the practices described in **AS 1345-1995, Identification of the contents of pipes, conduits and ducts**. The colours described in this Standard are available in the colour chart that is supplied with the hard copy edition of **AS 2700-2011**.

Symbols for Equipment and Machinery

There are a number of symbols that are used to designate requirements for specific types of equipment and machinery. These symbols can also be used to represent risks associated with the use of different types of equipment and machinery. A comprehensive overview of symbols used to represent requirements for different categories of equipment and machinery is included in **AS 60417, Graphical symbols for use on equipment Series**.

Electrical Equipment

A summary of common symbols used to represent requirements for different types of electrical equipment is included in **AS/NZS 3000:2007, Electrical installations (known as the Australian/New Zealand Wiring Rules)**. A complete list of electrical symbols is included in the **AS/NZS 1102, Graphical symbols for electrotechnical documentation Series**.

Symbols representing requirements for different types of industrial and related types of electrical equipment are included in **AS/NZS 3100:2009, Approval and test specification - General requirements for electrical equipment** and **AS 60204.1-2005, Safety of machinery – Electrical equipment of machines – General requirements (IEC60204-1, Ed. 5 (FDIS) MOD)**.

Information on marking and labelling requirements for different types of household and related types of electrical equipment are included in **AS/NZS 60335.1:2002, Household and similar electrical appliances – Safety – General requirements (IEC 60335-1 Ed 4.2, MOD)** and **AS 60417.2.5-2004, Graphical symbols for use on equipment -- Home electric appliances**.

Machinery

Machinery used in workplaces that require guarding should be supplied with appropriate marking requirements, symbols and instruction manuals which can be found in **AS 4024.1202-2006, Safety of machinery – General principles – Technical principles**. Similar information is included in **ISO**

12100:2010, Safety of machinery – General principles for design – Risk assessment and risk reduction.

Symbols for emergency stop buttons and actuating devices used with different types of machinery are included in **AS 60417.1-2004, Graphical symbols for use on equipment – Overview and application**. A copy of a symbol for emergency stop buttons is also included in **AS 4024.1604-2006, Safety of machinery – Design of controls, interlocks and guarding – Emergency stop – Principles for design**. Similar information is included in **ISO 13850:2006, Safety of Machinery – Emergency Stop – Principles for Design**. A table listing recommended colours and symbols for pushbuttons is included in **HB 59-1994, Ergonomics - The human factor - A practical approach to work systems design**.

Road Safety (including Off-Street Parking) Signs

Detailed information on different types of road safety symbols is included in the **AS 1742, Manual of uniform traffic control devices Series**. These Standards are also available as **AS 1742 Set-2010**.

Information on location and sizing details for commonly used road safety signs are included in **AS 1742.2-2009, Manual of uniform traffic control devices – Traffic control devices for general use**. An index of road safety symbols can be found in **AS 1742.1-2003, Manual of uniform traffic control devices – General introduction and index of signs**. Lettering and font requirements for these types of symbols are included in **AS 1744-1975, Forms of letters and numerals for road signs (known as Standard alphabets for road signs)**.

Signs used in off-street parks should be located by following the details described in **AS/NZS 2890.1-2004, Parking facilities – Off-street car parking**. Information on regulatory signs used in off-street car parks can also be found in:

- **AS 1742.1-2003**
- **AS 1742.2-2009**
- **AS 1742.10-2009, Manual of uniform traffic control devices – Pedestrian control and protection**

Public Information Symbols

Public Spaces and Buildings

Standards Australia has not established any Standards for symbols that may be used in public spaces and buildings. However, this information is included in **ISO 7001:2007, Graphical symbols – Public information symbols**. The types of symbols represented in this Standard can be prepared by following the principles and practices described in **ISO 22727:2007, Graphical symbols - Creation and design of public information symbols – Requirements**.

Parks

Signs and markers used on walking tracks can be classified by following the methods described in **AS 2156.1-2001, Walking tracks – Classification and signage**. Colours used to produce these types of signs are listed in this Standard. Examples of these colours are included in the colour chart that is supplied with the hard copy edition of **AS 2700-2011**.

Symbols used to provide direction to persons used on walking tracks are also included in **ISO 7001:2007**.

Disabled Access Signs

Signs used to represent facilities used by persons with disabilities are included in **AS 1428.1-2009, Design for access and mobility – General requirements for access – New building work** and **AS 1428.5-2010, Design for access and mobility – Communication for people who are deaf or hearing impaired**.

Line marking

Warehouses and distribution centres should be line marked by following the details that are included in **AS 1318-1985, Use of colour for the marking of physical hazards and the identification of certain equipment in industry (known as the SAA Industrial Safety Colour Code) (incorporating Amdt 1)**.

Personal Protective Equipment (PPE)

Hearing Protectors

The manufacturing Standard for hearing protectors is **AS/NZS 1270:2002, Acoustics - Hearing protectors**. This Standard also includes information on packaging and labelling requirements for different types of hearing protectors.

Hearing protection programs can be prepared, implemented and maintained by following the recommendations described in the **AS/NZS 1269, Occupational noise management Series**. These Standards are also available as **AS/NZS 1269 Set:2005**. Hearing protectors can be selected by following the information that is included in **AS/NZS 1269.3:2005, Occupational noise management – Hearing protector program**.

Respirators and Masks

Air purifying and supplied air respirators should be manufactured by following the requirements that are included in **AS/NZS 1716:2003, Respiratory protective devices**. Respiratory protective devices that have been manufactured to this Standard can be selected and maintained by following the recommendations included in **AS/NZS 1715:2009, Selection, use and maintenance of respiratory protective equipment**.

Disposable masks used by healthcare workers can be manufactured by following the details that are included in **AS 4381-2002, Single-use face masks for use in health care**.

Full-face types of personal protective equipment can incorporate helmets, eye protectors and respirators. For information on these types of equipment you can refer to the sections **Eye and Face Protectors** and **Head Protection (Helmets)**.

Eye and Face Protectors

Definitions and diagrams illustrating requirements for different types of eye protectors are included in **AS/NZS 1337.0 (Int):2010, Personal eye protection - Eye and face protectors - Vocabulary**.

Manufacturing requirements for different types of eye protectors are included in the **AS/NZS 1337, Personal eye protection Series**. Filters used with eye protectors should be tested to:

- **AS/NZS 1337.1:2010, Personal eye protection - Eye and face protectors for occupational applications**
- **AS/NZS 1337.4-2004, Personal eye-protection - Filters and eye-protectors against laser radiation (laser eye-protectors)**
- **AS/NZS 1337.6:2007, Personal eye-protection - Prescription eye protectors against low and medium impact**
- **AS/NZS 1338.1:1992, Filters for eye protectors - Filters for protection against radiation generated in welding and allied operations**
- **AS/NZS 1338.2:1992, Filters for eye protectors - Filters for protection against ultraviolet radiation**

- **AS/NZS 1338.3:1992, Filters for eye protectors – Filters for protection against infra-red radiation**

Eye protectors manufactured to these types of Standards can be selected by following the methods described in **AS/NZS 1336:1997, Recommended practices for occupational eye protection**.

Head Protection (Helmets)

Information on the design, testing and manufacture of different types of protective helmets used for protection against falling objects can be found in **AS/NZS 1801:1997, Occupational protective helmets**. Information on maintenance requirements for helmets manufactured to this Standard is included in **AS/NZS 1800:1998, Occupational protective helmets - Selection, care and use**.

Information on manufacturing and performance requirements for firefighters' helmets is included in **AS/NZS 4067:2004, Firefighters' helmets**.

All these Standards refer to tests that are included in the **AS/NZS 2512, Methods of testing protective helmets Series**.

Personal Flotation Devices (Life Jackets)

Personal flotation devices should be tested to the requirements in **AS 4758.1-2008, Personal flotation devices – General requirements**.

Personal Protective Clothing (PPC)

Comprehensive information on design and manufacturing requirements for all major types of occupational protective clothing is included in **AS/NZS 4501.2:2006, Occupational protective clothing – General requirements**.

Protective clothing manufactured to this Standard can be selected and maintained by following the information that is included in **AS/NZS 4501.1:2008, Occupational protective clothing – Guidelines on the selection, use, care and maintenance of protective clothing**. Both these Standards are available as **AS/NZS 4501 Set:2008**.

Persons applying principles described in these Standards may also wish to adopt the techniques in **AS/NZS ISO 31000:2009, Risk management – Principles and practices**.

Information on methods used to complete radiant heat tests for different types of protective clothing is included in:

- **AS/NZS 4502.1:2006, Methods for evaluating clothing for protection against heat and fire – Evaluation of thermal behaviour of materials and material assemblies when exposed to a source of radiant heat**
- **AS/NZS 4502.2:1997, Methods for evaluating clothing for protection against heat and fire - Evaluation of heat transmission of materials and material assemblies when exposed to flame**

Clothing that has been tested to these Standards can be selected by following the recommendations described in **AS/NZS ISO 2801:2008, Clothing for protection against heat and flame – General recommendations for selection, care and use of protective clothing**.

Laboratory test methods for textiles that may be used to manufacture different types of protective clothing are included in the **AS 2001, Methods of test for textiles - Physical tests Series**.

Care labelling requirements for protective clothing are covered by the information described in the Standards listed below:

- **AS/NZS 1957:1998, Textiles – Care labelling**
- **AS/NZS 2621:1998, Textiles - Guide to the selection of correct care labelling instructions from AS/NZS 1957**

High Visibility Clothing

Information on manufacturing and performance requirements for high visibility clothing used by employees is included in **AS/NZS 1906.4:2010, Retroflective materials and devices for road traffic control purposes – High-visibility materials for safety garments**. This Standard covers requirements for fluorescent and non-fluorescent high visibility garments.

Labelling requirements and design details for garments manufactured to this Standard are included in **AS/NZS 4602.1:2011, High visibility safety garments - Garments for high risk applications**. This Standard also includes diagrams illustrating location requirements for strips used with high visibility clothing.

Chemical Protective Clothing (Immersion Suits)

Information on manufacturing requirements for immersion suits is included in the **ISO 15027, Immersion suits Series**. These Standards are identical to the **I.S. EN ISO 15027 Series**.

Protective Clothing – High Voltage Electrical Work

Persons undertaking high voltage electrical work can select appropriate clothing by following the recommendations described in the **AS 5804, High-voltage live working Series**. Information on manufacturing requirements for this type of clothing is included in **IEC 60895 Ed 2.0, Live working - Conductive clothing for use at nominal voltage up to 800 kV a.c. and +/- 600 kV d.c**.

Sun Protective Clothing

Information on recommended Ultraviolet Protection Factors (UPF) for different types of sun protective clothing is included in **AS/NZS 4399:1996, Sun protective clothing - Evaluation and classification**.

High visibility clothing manufactured with UPF ratings should be manufactured to the requirements described in **AS/NZS 4399:1996**, **AS/NZS 1906.4:2010** and **AS/NZS 4602.1:2011**.

Clothing for users of Chainsaws

The **AS/NZS 4453, Protective clothing for users of hand-held chainsaws Series** includes information on requirements for:

- a test rig for testing protective clothing for resistance to cutting by a chainsaw;
- testing protective legwear for dimensional change, protective coverage and resistance to cutting by a chainsaw; and
- the design and performance of protective trousers and leggings (chaps) for users of hand-held chainsaws.

Protective Gloves

General Work

Information on requirements for non-disposable protective gloves used by persons not involved with electrical and surgical work is included in the **AS/NZS 2161, Occupational protective gloves Series**.

Gloves can be selected and maintained by following the practices that are included in **AS/NZS 2161.1:2000, Occupational protective gloves – Selection, use and maintenance**. Information on

methods that can be used to select and evaluate different types of protective gloves is also included in **HB 9-1994, Occupational personal protection**.

Information on manufacturing requirements for gloves used by employees exposed to different types of risks is included in **AS/NZS 2161.2:2005, Occupational protective gloves – General requirements**.

Information on performance requirements and tests for gloves providing protection for employees working in the following types of areas can be found in:

- Cold environments
  AS/NZS 2161.5:1998, Occupational protective gloves – Protection against cold
- Protection against cuts and punctures
  AS/NZS 2161.3-2005, Occupational protective gloves – Protection against mechanical risks
- Protection against chemicals and micro-organisms
  AS/NZS 2161.10, Occupational protective gloves Series
- Protection against heat and fire
  AS/NZS 2161.4:1999, Occupational protective gloves – Protection against thermal risks (heat and fire

AS/NZS 4011-1997, Single-use examination gloves covers requirements for disposable gloves that are not designed to be used for surgical purposes.

Surgical Work

AS/NZS 4179:1997, Single-use surgical rubber gloves – Specification provides information on manufacturing requirements for disposable gloves that can be used for surgical purposes.

Electrical Work

Information on manufacturing requirements for protective gloves used by persons completing different types of electrical work is included in:

- **AS 2225-1994, Insulating gloves for electrical purposes**
- **AS 5804.2-2010, High-voltage live working – Glove and barrier work**
- **I.S. EN 60984:1993, Sleeves Of Insulating Material For Live Working**

Information on principles and practices that can be followed to select, care and maintain gloves used for electrical work is included in:

- **ENA NENS 09-2006, National guidelines for the selection, use and maintenance of personal protective equipment for electrical hazards**
- **AS 5804.2-2010, High-voltage live working - Glove and barrier work**

Footwear

Information on manufacturing requirements for occupational protective footwear is included in the **AS/NZS 2210, Occupational protective footwear Series**.

General information on manufacturing requirements and tests for occupational protective footwear is included in **AS/NZS 2210:2:2009, Occupational protective footwear – Test methods (ISO 20344:2004, MOD)**.

Information on manufacturing of the following types of occupational protective footwear can be found in:

- Occupational Footwear (not fitted with toecaps)
  AS/NZS 2210.5:2009, Occupational protective footwear – Specification for occupational footwear (ISO 20347:2004, MOD)
- Safety Footwear (fitted with toecaps)
  AS/NZS 2210.3:2009, Occupational protective footwear – Specification for safety footwear (ISO 20345:2004, MOD)
- Protective Footwear (fitted with toecaps)
  AS/NZS 2210.4:2009, Occupational protective footwear – Specification for protective footwear (ISO 20346:2004, MOD)

Footwear manufactured and tested to the above Standards can be selected and maintained by following the information that is included in **AS/NZS 2210.1:2010, Safety, protective and occupational footwear – Guide to selection, care and use**.

Information on manufacturing requirements, descriptions, selection and classification requirements for the types of protective footwear that may be used by firefighters is included in **AS/NZS 4821-2006, Protective footwear for firefighters – Requirements and test methods**.

Installing and Working With Low Voltage Electrical Equipment

Safe work practices for for electrical equipment

Safe work practices for those working with low voltage electrical equipment are included in **AS/NZS 4836:2011, Safe working on or near low-voltage electrical installations and equipment**.

Electrical Installations

Electrical equipment can be installed and operated by following the information described in the Standards below:

- **AS/NZS 3000:2007, Electrical installations (known as the Australian/New Zealand Wiring Rules)**
- **AS/NZS 3017:2007, Electrical installations – Verification guidelines**
- **AS/NZS 3019:2007, Electrical installations – Periodic verification**

Selecting and Rating Cables

- **AS/NZS 3008.1.1:2009, Electrical installations – Selection of cables – Cables for alternating voltages up to and including 0.6 1/kv**

Construction and Demolition Sites

- **AS/NZS 3012:2010, Electrical installations – Construction and demolition sites**

Caravans, Caravan Parks and Transportable Structures

- **AS/NZS 3001:2008, Electrical installations – Transportable structures and vehicles including their site supplies**

Shows and Carnivals

- **AS/NZS 3002:2008, Electrical installations – Shows and carnivals**

Cardiac Protected Areas in Healthcare Facilities

- **AS/NZS 3003:2011, Electrical installations – Patient treatment areas**

Marinas and Recreational Boats

- AS/NZS 3004,1:2008, Electrical installations – Marinas and recreational boats – Marinas
- AS/NZS 3004.2:2008. Electrical installations – Marinas and recreational boats – Recreational boat installations

Testing and Tagging Electrical Equipment

Equipment using cords and plugs not used for medical devices, or on construction sites

- AS/NZS 3760:2010, In-service safety inspection and testing of electrical equipment
- AS/NZS 5761:2011, In-service safety inspection and testing – Second-hand equipment prior to sale
- AS/NZS 5762:2011, In-service safety inspection and testing – Repaired electrical equipment

Construction Sites

- AS/NZS 3012:2010, Electrical installations – Construction and demolition sites

Electro-Medical Equipment

- AS/NZS 3551:2012, Management programs for medical equipment

Safe Work Method Statements

- S8.2.12.0090, Safe Work Method Statement – Electrical wiring
- S8.1.12.0089, Safe Work Method Statement – Electrical Fit-off

Installing and Working With High Voltage Electrical Work

- AS/NZS 7000:2010, Overhead line design – Detailed procedures
- AS 5804, High-voltage live working Series of Standards

ENA (Electricity Network Association) Publications

- ENA NENS 03-2006, National guidelines for safe access to electrical and mechanical apparatus
- ENA NENS 04-2006, National guidelines for safe approach distances to electrical and mechanical apparatus
- ENA NENS 05-2006, National fall protection guidelines for the electricity industry
- ENA Doc publications

Safe Work Method Statement

- S812.0328, Safe Work Method Statement – Power Pole – Installation

Mining Equipment

- AS/NZS 3007:2013, Electrical equipment in mines and quarries – Surface installations and associated processing equipment
- AS/NZS 4871, Electrical equipment for mines and quarries Series of Standards

Safe Work Method Statements

Safe Work Method Statements for persons working in mines can be prepared by following the information that is included in **S8.1.12.0066, Safe Work Method Statement – Mining – Work Near**.

Hazardous Areas

Repairing Explosion Protected Equipment – All Areas

Specific requirements for the repair and overhaul, reclamation and modification of equipment designed for use in explosive atmospheres can be found in **AS/NZS 3800:2012, Electrical equipment for explosive atmospheres – Repair and overhaul**. Additional information can also be found in **IEC 60079-19 Ed. 3.0, Explosive atmospheres - Part 19: Equipment repair, overhaul and reclamation**.

Explosion Protected Equipment – Flammable Gases and Vapours Zoning Equipment

- **AS/NZS 60079.10.1:2009, Explosive atmospheres – Classification of areas – Explosive gas atmospheres**

Installing Equipment

- **AS/NZS 60079.14:2009, Explosive atmospheres – Electrical installations, design, selection and erection**
- **AS/NZS 60079.17:2009, Explosive atmospheres – Electrical installations, inspection and maintenance (IEC 60079-17, Ed.4.0(2007) MOD**

Explosion Protected Equipment – Combustible Dusts Zoning Equipment

- **AS/NZS 60079.10.2:2011, Explosive atmospheres – Classification of areas – Combustible dust atmospheres**

Installing Equipment

- **AS/NZS 61241.14:2005, Electrical apparatus for use in the presence of combustible dust – Selection and installation (IEC 61241-14, Ed.1.0(2004) MOD)**

Plumbing and Gas Installations

The requirements for plumbing and gas are outlined in **AS/NZS 3500, Plumbing and drainage Series**. The most comprehensive publication for those requiring detailed information on gas and plumbing installations is our publication **Plumbing and drainage Set:2013**.

Please contact Gas Regulators for information on enforcement dates for **AS/NZS 5601.1:2013, Gas installations – General requirements** and **AS/NZS 5601.2:2013, Gas installations – LP Gas installations in caravans and boats for non-propulsive purposes.**

Maintenance and testing requirements for thermostatic mixing valves can be determined by following the information that is included in **AS 4032.3-2004, Water supply – Valves for the control of hot water supply temperatures – Requirements for field testing, maintenance or replacement of thermostatic mixing valves and end of line temperature control devices.**

Detailed information on methods that can be used to size eaves and box gutters are included in **HB 114:1998, Guidelines for the design of eaves and box gutters.**

Safe Work Method Statements

- S8.1.12.0199, Safe Work Method Statement – Plumbing Fit-off (tap ware etc)
- S8.1.12.0197, Safe Work Method Statement – Plumbing – Hot & Cold Water Rough In
- S8.1.12.0119, Safe Work Method Statement – Gas Installations to Premises

Welding Safety

Fire Safety Precautions

- AS 1674.1-1997, Safety in welding and allied processes – Fire precautions (Note: A sample copy of a hot work permit is included in this Standard. Please contact the WTIA for further information on 'Hot Work Permits').

Electrical Hazards

- AS 1674.2-2007, Safety in welding and allied processes – Electrical

Safe Work Method Statements

There are number of Safe Work Method Statements prepared on the topic of welding. Australian welding safety Standards primarily provide information on safety requirements for Oxy-Acetylene and MIG welding. Fire safety requirements for welders can also be assessed by applying the information contained in S8.2.13.0136, Safe Work Method Statement – Hot Works.

Dangerous Goods

Asbestos

Levels of asbestos that may be present in products can be determined by using the information that is included in Australian Standard AS 4964-2004, Method for the qualitative identification of asbestos in bulk samples. Equipment used to remove asbestos may be tested to the BS 8520, Equipment used in the controlled removal of asbestos-containing materials Series of Standards.

Safe Work Method Statements

Safe Work Method Statements for working with and removing asbestos can be prepared by using the information contained in the publications below:

- S8.1.12.0010, Safe Work Method Statement – Asbestos – Friable
- S8.2.12.0012, Safe Work Method Statement – Asbestos – Non Friable – Removal
- S812.0388, Safe Work Method Statement – Asbestos – Non-Friable – Working With

Corrosive Substances

AS 3780-2008, The storage and handling of corrosive substances Sets out the minimum requirements for the safe storage and handling of corrosive substances.

Safe Work Method Statements

- S8.1.12.0203, Safe Work Method Statement – Pool chemicals – Safe handling

Explosives

Storing, Handing and Transporting Explosives

Those requiring information on appropriate procedures for storing and handling different types of explosives can refer to the information contained in the AS 2187, Explosives – Storage, transport and use Series of Standards.

Explosive Tools (Powder Actuated Tools)

Explosive tools should be operated and maintained by following the information contained in **AS/NZS 1873.1:2003, Powder-actuated (PA) hand-held fastening tools – Selection, operation and maintenance**. Detailed information on design and construction requirements for different types of explosive tools is included in other parts to the **AS/NZS 1873 Power-actuated (PA) hand-held fastening tools Series** of Standards.

Safe Work Method Statements

Persons using explosive powered tools can prepare Safe Work Method Statements by using the information that is included in **S8.1.2.0104, 2012, Safe Work Method Statement – Explosive Power Tools.**

Flammable and Combustible Liquids and Solids

Information pertaining to the storage and handing of flammable and combustible liquids and solids is found in:

- **AS 1940-2004, The storage and handling of flammable and combustible liquids**
- **AS/NZS 5026:2012, The storage and handling of Class 4 dangerous goods**

Gases

This section provides information related to gases stored in cylinders.

Gas Cylinders – Bottled Gases (Storage Requirements)

Gases supplied in cylinders should be stored by following the information contained in **AS 4332-2004, The storage and handling of gases in cylinders**. This Standard covers storage and handling requirements for the types of gases below:

- Class 2.1 Flammable gases
- Class 2.2 Non-Flammable, non-toxic gases
- Class 2.3 Toxic gases

See headings below for information on storage and handling Standards for other types of common gases.

Labelling requirements for cylinders used for different applications are included in **AS 4484-2004, Gas cylinders for industrial, scientific, medical and refrigerant use – Labelling and colour coding**.

The Safe Work Method Statement for refrigerant Gases is **S8.1.12.0 S 213, Safe Work Method Statement – Refrigerant Gases**

Liquefied Petroleum Gases (LP Gases)

- **AS/NZS 1596:2008, The storage and handling of LP Gas**

Non-Flammable Cryogenic and Refrigerated Liquids

- **AS 1894-1997, The storage and handling of non-flammable cryogenic and refrigerated liquids**
- **AS/NZS 2022:2003, Anhydrous ammonia – Storage and handling**

Liquefied Chlorine Gas

- **AS/NZS 2927:2001, The storage and handling of liquefied chlorine gas**

Liquefied Natural Gas

- **AS 3961-2005. The storage and handling of liquefied natural gas**

Medical Gases (Storage and Reticulation Standard)

Oxygen and acetylene gases are commonly used for medical applications. The storage and handling Standard for medical gases supplied in cylinders is **AS 4289-1995, Oxygen and acetylene gas reticulation systems.** It is also used for design, installation, maintenance and operation of medical gas reticulation (also known as piping systems). Other important Standards include:

Inert Gases (Beer Dispensing Gases)

- **AS 5034-2005, Installation and use of inert gases for beverage dispensing**

Decanting and Filling Gas Cylinders

Cylinders should be refilled and inspected by following the methods described in **AS 2030.5-2009, Gas cylinders – Filling, inspection and testing of refillable cylinders.**

Cylinders containing medical air and oxygen can be filled by using the practices described in **AS 3848.1-1999, Filling of portable gas cylinders – Decant filling of medical air and oxygen into portable cylinders – Safe procedures.**

Additional information on filling and inspection requirements for cylinders containing acetylene, welded insulated cylinders, medical gases and gases cylinders used by divers is included in:

- **AS 2030.2-1996, The verification, filling, inspection and maintenance of cylinders for the storage and transport of compressed gases – Cylinders for dissolved acetylene**
- **AS 3848.2-1999, Filling of portable gas cylinders – Filling of portable cylinders for self-contained underwater breathing apparatus (SCUBA) and non-underwater self-contained breathing apparatus (SCBA) – Safe procedures**

Gas Cylinder Testing Stations

Certified gas cylinder testing stations are responsible for ensuring correct practices are followed to decant, fill, inspect and test the safety of gas cylinders periodically at required intervals. Gas cylinder test stations are required to inspect and test cylinders by follow the information contained in the **AS 2337, Gas cylinder test stations Series** of Standards.

Pest Control, Agricultural Chemicals and Oxidizing Substances

Commonly used chemicals used in the pest control industry are classified as oxidizing peroxides.The storage and handling Standards for these types of dangerous goods include:

- **AS 2507-2008, The storage and handling of agricultural and veterinary chemicals**
- **AS 2714=2008, The storage and handling of organic peroxides**
- **AS 4326-2008, The storage and handling of oxidizing agents**

Safe Work Method Statements

Employees and operators in pest control and related industries can prepare Safe Work Method Statements by following the information contained in the publications below:

- **S8.1.12.0188, Safe Work Method Statement – Pest Management**
- **S8.1.12.0265, Safe Work Method Statement – Pest Control – Termites and Ants**

Radioactive Substances

Definitions for different types of radiation hazard terms are included in **AS 1852.881-1988, International electrotechnical vocabulary – Radiology and radiological physics**.

Infrared Radiation

Persons using lasers may be exposed to varying levels of infrared radiation. Emission limits for different classes of lasers are included in the **AS/NZS 2211, Safety of laser products Series**. Specific requirements for classes of lasers are included in:

- **AS/NZS 2211.1:2004, Safety of laser products – Equipment classification, requirements and users guide (IEC 60825-1:2001, MOD)**
- **AS/NZS 2211.5:2006, Safety of laser products – Manufacturers checklist for AS/NZS 2211.1**
- **AS/NZS 2211.10:2004, Safety of laser products – Application guidelines and explanatory notes to AS/NZS 2211.1 (IECTR60825-10:2002, MOD)**

Eye protectors may need to be used by persons exposed to high levels of infrared radiation. Eye protectors can be selected by following the methods recommended in **AS/NZS 1336:1997, Recommended practices for occupational eye protection**. Manufacturing requirements for filters and eye protectors designed to reduce levels of infrared radiation are included in:

- **AS/NZS 1337.1:2010, Personal eye protection – Eye and face protectors for occupational applications**
- **AS/NZS 1337.4:2004, Personal eye protection – Filters and eye-protectors against laser radiation (laser eye-protectors)**
- **AS/NZS 1337.5:2004, Personal eye protection – Eye-protectors for adjustment work on lasers and laser systems (laser adjustment eye-protectors)**

Ionizing Radiation

Information on ionizing radiation levels for different types of workplace environments as well as protection against ionizing radiation is included in:

- **AS/NZS 2161.8:2002, Occupational protective gloves – Protection against ionizing radiation and radioactive contamination**
- **AS/NZS 2243.1:2005, Safety in laboratories – Planning and operational aspects**
- **AS 2243.4-1998, Safety in laboratories – Ionizing radiations**
- **AS/NZS 3824:1998, Guidelines on radiotherapy treatment rooms design**

Non-Ionizing Radiation

Information on safety in regards to non-Ionizing radiation in workplace environments is included in:

- **AS/NZS 2243.1:2005, Safety in laboratories – Planning and operational aspects**
- **AS/NZS 2243.5:2004, Safety in laboratories – Non-ionizing radiations – Electromagnetic, sound and ultrasound**

Electromagnetic Radiation

Persons working with or near electronic devices or high voltage power lines may be exposed to high levels of electromagnetic radiation. Levels of electromagnetic radiation can be determined by following the methods outlined in:

- **AS/NZS 2344:1997, Limits of electromagnetic interference from overhead a.c. powerlines and high voltage equipment installations in the frequency range 0.15 to 1000 MHz**
- **AS/NZS 2772.2:2011, Radiofrequency fields - Principles and methods of measurement and computation - 3 kHz to 300 GHz**

Ultraviolet Radiation

Eye protectors can be used to provide protection to persons working in environments where high levels of ultraviolet radiation may be present. These types of protectors can be selected by following the recommendations described in **AS/NZS 1336:1997, Recommended practices for occupational eye protection**.

The manufacturing Standard for filters designed to protect against ultraviolet radiation should be manufactured to **AS/NZS 1338.2:1992, Filters for eye protectors – Filters for protection against ultraviolet radiation**. All types of eye protectors should be tested to the requirements described in **AS/NZS 1337.1:2010, Personal eye protection – Eye and face protectors for occupational applications**.

Sun protective and high visibility clothing may need to be worn by persons that are regularly required to work outdoors. The manufacturing Standard for sun protective clothing is **AS/NZS 4399:1996, Sun protective clothing – Evaluation and classification**. High visibility clothing may need to conform to the requirements outlined in **AS/NZS 1906.4:2010, Retroreflective materials and devices for road traffic control purposes - High-visibility materials for safety garments** and **AS/NZS 4602.1:2010, High visibility safety garments - Garments for high risk applications**.

Welders are commonly exposed to high ultraviolet radiation levels. Welding curtains can be used to reduce radiation hazards for these types of people. Requirements for manufacturing welding curtains can be found in **AS/NZS 3957:2006, Light transmitting screens and curtains for welding operations**.

Regular users of solariums may also be exposed to high levels of ultraviolet radiation. Solariums should be operated by following the information that is included in **AS/NZS 2635:2008, Solaria for cosmetic purposes**.

Toxic and Infectious Substances

Toxic and infectious substances should be stored by following the information that is included in **AS/NZS 4452:1997, The storage and handling of toxic substances.**

Designing and Operating Gas Pipelines

Information for designing and operating gas and liquefied petroleum (LP) pipelines is included in the **AS 2885 Series** of Standards.

Transporting Dangerous Goods

Those responsible for transporting dangerous goods by road rail should ensure each vehicle has a copy of the publications listed below:

- **HB 76-2010, Initial Emergency Procedure Guide**
- **AS 1678, Emergency procedure guide Series**

Each Emergency Procedure Guides must be supplied with the Emergency Procedure Guide for Vehicle Fire **AS 1678.0.0.001-2004, Emergency Procedure Guide – Transport – Vehicle fire**.

Safe Work Method Statements

Safe Work Methods for those responsible for transporting chemicals can be prepared in-line with **S8.1.12.0047, Safe Work Method Statement – Chemical Loading on Vehicle.**

Storing and Handling Dangerous Goods

Safe Work Method Statements for those handling dangerous goods can be prepared by using the information contained in **S813.0392, Safe Work Method Statement – Hazardous Chemicals – Working Around.**

Food Safety

Those responsible for the handling of food should consider information included in the publications below:

Food Management Systems (Also known as HACCP)

- **AS ISO 22000-2005, Food safety management systems – Requirements for any organization in the food chain**
- **AS ISO 22004 (Int)-2006, Food safety management systems – Guidance on the application of AS ISO 22000-2005**. These Australian Standards can also be purchased in a **Set**.

Construction and Hygiene Requirements for Food Premises

- **AS 4674-2004, Construction and fit out of food premises**

Safe Work Method Statement

- **S8.1.12.0132. Safe Work Method Statement – Catering Van - Mobile**

For information on certification for food management systems, see the **SAI Global Certification Schemes**.

Confined Spaces

Another term that may be used to describe confined spaces is 'oxygen deficient atmospheres'. Respirators should be used by those working in confined spaces. Respirators can be selected by following the information that is included in **AS/NZS 1715:2009, Selection, use and maintenance of respiratory protective equipment** Manufacturing requirements for respirators are described in **AS/NZS 1716:2012, Respiratory protective devices.**

The Australian Workplace Health and Safety Standard for confined spaces is **AS 2865-2009, Confined spaces**.

Safe Work Method Statements

Persons working in confined spaces can prepare Safe Work Method Statements by using the information in the publications below:

- **S8.2.13.0070, Safe Work Method Statement – Confined Space Rescue**
- **S8.5.13.0069, Safe Work Method Statement – Confined Spaces**

Occupational and Recreational Diving

Occupational Diving

Workplace Health and Safety requirements for occupational divers can be determined by using the information that is included in the **AS 2885, Series** of Standards.

Recreational Diving

Safety requirements for recreational divers can be determined by using the information contained in the **AS 4005, Training and certification of recreational divers Series** of Standards.

Laboratory Safety

General information on safety requirements for different types of laboratories is included in:

- **AS/NZS 2243, Safety in laboratories Series** of Standards
- **AS/NZS 2982:2010, Laboratory design and construction**

Cleanrooms

Detailed information on requirements for different types of cleanrooms are included in the **AS/NZS ISO 14644, Cleanrooms and associated controlled environments Series** of Standards. Operational requirements for cleanrooms are described in **AS/NZS ISO 14644.5:2006, Cleanrooms and associated control environments – Operation.**

SAI Global Certification Schemes

SAI Global Limited is the largest provider of third party product certification and testing services within the Asia Pacific, and is accredited against a broad range of Australian and International Standards, via its wholly owned subsidiary SAI Global Certification Services Pty Limited.

Product Certification

The **Product Certification Services** Group offers a wide range of certification schemes tailored for products related to safety equipment.

StandardsMark™

StandardsMark™ is a **System 5 certification scheme** which is used to certify manufacturers of personal protective equipment and equipment to specific product performance Standards. The '5 ticks' StandardsMark™ certification requirements are:

- Testing of sample products by independent accredited laboratories
- Verification of test reports
- Audit of the manufacturing site for initial and ongoing compliance

Electrical Type Test

Electrical Type Test certification is a **System 1 certification scheme**. This scheme is recognized as an 'External Approval Scheme' by the Minister of Fair Trading NSW. Through this scheme manufacturers can demonstrate product safety compliance as required by the Electrical Product Regulators in Australia and New Zealand, and the minimum requirements are:

- Testing of product samples by independent accredited laboratories
- Assessment of test reports

IECEE CB Scheme

IECEE CB scheme is an International scheme for mutual recognition of product safety certification between participating countries. Developed by the Worldwide System for Conformity Testing and Certification of Electrical Equipment (IECEE), the CB scheme is the first truly international system for acceptance of test reports dealing with the safety of electrical and electronic products. The main objective is to facilitate trade by promoting harmonisation of the national Standards with international Standards and co-operation among product certifiers worldwide.

SAI Global is the accredited National Certification Body (NCB) for Australia and New Zealand. SAI Global also issues internationally recognized CB Certificates that exporters can use to gain local electrical approval in overseas countries.

Please contact the **Product Certification Services Group** for more detailed information on the above schemes.
PHONE: +61 2 8206 6322
EMAIL: product@saiglobal.com

Management Systems Certification

The **Assurance Services Division** also offers a wide range of certification schemes tailored for management systems of Workplace Health and Safety.

Occupational Health and Safety (OH&S) Management Systems

The management of Occupational Health and Safety (WHS) risks is a minimum requirement in every workplace. An effective WHS Management System can help to establish the framework of compliance with the two fundamental elements of most WHS legislation:

That employers provide and maintain a working environment that is safe and without risk

That employees take reasonable care for the health and safety of themselves and others

Audit and certification through SAI Global is available for several well recognised Standards:

- **AS/NZS 4801**
- **WHSAS 18001**
- **SafetyMap**
- **InjuryMap**
- **National Audit Tool (NAT)**

Quality and Excellence in Health

The Excellence in Health Program offers certification against **ISO 9001:2008** incorporating the Core Standards for Safety & Quality in Healthcare (to be replaced by the National Safety & Quality Health Service Standards from July 2011), the compliance level.

Excellence in Health offers an additional layer of value for organisations that have reached Tier 1 – Quality in Health level: participation in the internationally recognised **Business Excellence Framework**, which is exclusive to SAI Global.

Food Safety Management Systems - HACCP, BRC, ISO 22000, Organic Certification and more

These days management systems need to take into account not only basic food regulations and acceptable workplace practices, but also include contingency plans for potential crises such as product recall. Food Safety Programs may need to be implemented to meet regulatory requirements, retailer requirements or your own requirements.

SAI Global has extensive experience in auditing, verification and gap audits for:

- **HACCP (Hazard Analysis of Critical Control Points)**
- **FS 22000**
- **ISO 22000 Food Safety Management Program**
- **BRC**
- **SQF**
- **GFSI - Global Food Safety Initiative**
- **Supplier Audits - Retailer Brands/Supply Chain**
- **Clean Green Australian Southern Rocklobster**
- **Special requirements for food safety**
- **National Heart Foundation - Australia**

- **Supply Chain Verification**
- **Certified Organic**

Please contact the **Assurance Services Division** for more detailed information on Auditing and Certification (including the Five Ticks StandardsMark™.
PHONE: 1300 360 314
EMAIL: assurance@saiglobal.com

Compliance, Ethics, Risk Management and Governance Solutions

Environment, Health & Safety Software

The SAI Global **Environment, Health & Safety Software** provides a framework for managing EH&S performance as well as a central repository for all of your preventative and reactive data. Gain visibility and transparency of your EH&S indicators with automation of reporting, incident reviews, effectiveness assessments, auditing and more.

Global Legislative, Regulatory and Compliance & Ethics News

Identifying and understanding the Standards, legislation and regulation that impact your business is important to identifying and managing risk. The following services are available to help your business keep up to date on Australian/New Zealand regulation and compliance news, developments and changes:

- **Safety, Health & Environment compliance**
- **Australian Laws and Regulation Change Updates**
- **Regulatory Newsfeed - Occupational Health & Safety**
- **Safety, Health & Environment Risk Management and Compliance News**
- **Regulatory News – Corporate Law Bulletin**
- **Health, Safety & Environment Compliance**

Workplace Health & Safety Online Training & Awareness Programs

The SAI Global **Online compliance & ethics learning to improve compliance** provides information on OH&S policies, procedures, values and best practice principles to widely dispersed employees and business partners consistently. Full tracking and reporting gives you proof of completion for audit purposes.

Please contact the **Information Services Division – Regulatory** for more detailed information on the SAI Global OH&S, governance, compliance & risk management solutions available.
PHONE: 131 242
EMAIL: **info.regulatory@saiglobal.com**

Online Resources

Find out more about the WHS act with Sherriff's Work Health & Safety Law Guide.
www.saiglobal.com/WHS

Get anywhere, anytime access to information of which Australian Standards are referenced in which Australian Commonwealth, State and Territory legislation.
www.saiglobal.com/LexConnect

Do you need to be alerted of regulatory updates and how these changes are applicable to your business processes?
http://www.saiglobal.com/is3-rk

Do you need online access to the National Construction Code 2011 and all the Australian Standards® referenced within it?
www.saiglobal.com/NCC

Do you need online access to the Building Code of Australia and all the Australian Standards® referenced within it?
www.saiglobal.com/BCA

Do you need online access to the Plumbing Code of Australia 2011 and all the Australian Standards® referenced within it?
www.saiglobal.com/PCA

Do you need guidance on which Australian Standards® or parts thereof are referred to in legislation?
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Regulators

Australian Government

Safe Work Australia

Website: www.safeworkaustralia.gov.au

Government of Western Australia

Department of Commerce - Worksafe

Website: www.commerce.wa.gov.au/WorkSafe/

Government of South Australia

SafeWork SA

Website: www.safework.sa.gov.au

Tasmanian Government

Department of Justice – Workplace Standards Tasmania

Website: http://www.workplacestandards.tas.gov.au

Queensland Government

Department of Justice and Attorney-General – Workplace Health and Safety Queensland

Website: www.justice.qld.gov.au

New South Wales Government

WorkCover Authority of NSW

Website: www.workcover.nsw.gov.au

NSW Commission for children & young people

Website: kids.nsw.gov.au

Office of Environment & Heritage

Website: www.environment.nsw.gov.au

Workers Compensation Commission

Website: www.wcc.nsw.gov.au

ACT Government

Office of Regulatory Services - WorkSafe ACT

Website: www.worksafety.act.gov.au/health_safety

Northern Territory Government

NT WorkSafe

Website: www.worksafe.nt.gov.au

State Government of Victoria

WorkSafe Victoria

Website: **www.worksafe.vic.gov.au**

Victorian Trades Hall Council

Occupational Health and Safety Unit – OHS Reps at Work

Website: **www.ohsrep.org.au**

Useful Websites

Australian Government

Department of Education, Employment and Workplace Relations - Office of the Federal Safety Commissioner

Website: **fsc.gov.au**

Safety, Rehabilitation and Compensation Commission

Website: **www.srcc.gov.au**

Seafarers Safety, Rehabilitation and Compensation Authority

Website: **www.seacare.gov.au**

CRS Australia

Website: **www.crsaustralia.gov.au**

National Review into Model OHS Laws

Website: **http://employment.gov.au/occupational-health-and-safety-harmonisation**

Comcare

Website: **www.comcare.gov.au**

Business.gov.au – Occupational Health & Safety

Website: **www.business.gov.au/BusinessTopics/Occupationalhealthandsafety**

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Also Visit: **Product Certification Key Documents**

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