Holcim

Strength. Performance. Passion.

Materials under scope of Naming convention

Belts

Table of contents

Contents

Version	Description / Changes	Person	Date
Ver 2.2a	First official version	Javier Conde / Htl	22.09.2014
Ver 2.2b	Additional pictures for surface types included	Htl	12.01.2016

1. Belts

The original PCS code 040925 is used for belts and other rubber material. This fact leads to the need to differentiate the PCS.

Normal rubber materials which are part of PCS 040925 are maintained without any extension and Naming Convention.

If the material is part of conveyor belts, elevator belts or special (endless) belts an additional coding was introduced. With this coding it is possible to distinguish between the different type of belts and to exclude other rubber material. For standard naming it was possible to apply different characteristics and mandatory fields.

The three defined subgroups are:

- 040925CONV: conventional belts for belt conveyor
- 040925ELEV: belts for belt bucket elevators
- 040925SPEC: special belts (endless belts usually for dosing systems)

In this manual only the characteristics linked to the classification of the belts according to the Naming Convention Project, will be shown and explained.

A belt can be either in VW or in the normal stock. It depends on the characteristics. There is a difference in mandatory and optional fields. Mandatory fields have to be completed in any case.

2. Key characteristics to consider a Belt part of the VW

040925CONV – conventional belts for belt conveyors

040925CONV_vw

Characteristic Name	Commodity	Carcass type	Breaking tension N/mm	Norm	No of shims / insertions	Thickness of upper ply mm	Thickness of below ply mm	Feature of upperplies	Value of feature	BELT SURFACE	DIN22102	Belt width mm	Length of belt m	OEM	Warehouse Type
Characteristic Technical Name	ZNC_COMMODITY	ZNC_BELT_CARCASS	ZNC_BELT_BREAKING	ZNC_DIN_ISO_CODE	ZNC_BELT_PLIES	ZNC_BELT_THICKTOP	ZNC_BELT_THICKBOT	ZNC_BELT_FEATUREUP	ZNC_BELT_FEATURE	ZNC_BELT_SURFACE	ZNC_BELT_DIN22102	ZNC_BELT_WIDTH	ZNC_BELT_CIRCLENGTH	ZNC_BELT_MANUF	ZNC_WAREHOUSE
040925CONV	M	M	M	O	M	O	O	M	O	O	O	M	O	O	M
040925CONV_vw	M	M	M	O	M	M	M	M	M	M	O	M	O	O	M
Data type	Char	Char	Num	Char	Num	Num	Num	Char	Num	Char	Char	Num	Num	Char	Char
Number of Charts	9	3	4	10	2	3	3	3	3	7	4	4	6	20	2
Decimal places	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Unit			N/mm			mm	mm					mm	m		

040925ELEV – belts for belt bucket elevators

040925ELEV_vw

Characteristic Name	Commodity	Carcass type	Breaking tension N/mm	Norm	No of shims / insertions	Thickness of upper ply mm	Thickness of below ply mm	Feature of upperplies	Value of feature	BELT SURFACE	DIN22102	Belt width mm	Length of belt m	OEM	Warehouse Type
Characteristic Technical Name	ZNC_COMMODITY	ZNC_BELT_CARCASS	ZNC_BELT_BREAKING	ZNC_DIN_ISO_CODE	ZNC_BELT_PLIES	ZNC_BELT_THICKTOP	ZNC_BELT_THICKBOT	ZNC_BELT_FEATUREUP	ZNC_BELT_FEATURE	ZNC_BELT_SURFACE	ZNC_BELT_DIN22102	ZNC_BELT_WIDTH	ZNC_BELT_CIRCLENGTH	ZNC_BELT_MANUF	ZNC_WAREHOUSE
040925ELEV	M	M	M	O	M	O	O	M	O	O	O	M	O	O	M
040925ELEV_vw	M	M	M	O	M	M	M	M	O	O	O	M	M	M	M
Data type	Char	Char	Num	Char	Num	Num	Num	Char	Num	Char	Char	Num	Num	Char	Char
Number of Charts	9	3	4	10	2	3	3	3	3	7	4	4	6	20	2
Decimal places	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0
Unit			N/mm			mm	mm					mm	m		

040925SPEC – special/endless belts for dosing systems

040925SPEC_vw

Characteristic Name	Commodity	Carcass type	Breaking tension N/mm	Norm	No of shims / insertions	Thickness of upper ply mm	Thickness of below ply mm	Feature of upperplies	Value of feature	BELT SURFACE	DIN22102	Belt width mm	Length of belt m	OEM	Warehouse Type
Characteristic Technical Name	ZNC_COMMODITY	ZNC_BELT_CARCASS	ZNC_BELT_BREAKING	ZNC_DIN_ISO_CODE	ZNC_BELT_PLIES	ZNC_BELT_THICKTOP	ZNC_BELT_THICKBOT	ZNC_BELT_FEATUREUP	ZNC_BELT_FEATURE	ZNC_BELT_SURFACE	ZNC_BELT_DIN22102	ZNC_BELT_WIDTH	ZNC_BELT_CIRCLENGTH	ZNC_BELT_MANUF	ZNC_WAREHOUSE
040925SPEC	M	M	M	O	M	O	O	M	O	O	O	M	O	O	M
040925SPEC_vw	M	M	M	O	M	M	M	M	M	M	O	M	O	O	M
Data type	Char	Char	Num	Char	Num	Num	Num	Char	Num	Char	Char	Num	Num	Char	Char
Number of Charts	9	3	4	10	2	3	3	3	3	7	4	4	6	20	2
Decimal places	0	0	0	0	0	1	1	0	0	0	0	0	3	0	0
Unit			N/mm			mm	mm					mm	m		

3. Characteristics

Below you will find a brief explanation of each of the characteristics:

- **Commodity – Fixed Value**

This value is a fixed value for the different type of belts

- **Carcass type – Mandatory**

Indicates the main material that composes the carcass of the belt. A selected list of materials were selected for VW Project:

Fabric (Material carcass)	Codification
Polyester/Polyamide(EP)	EP
Steel cord(SC)	ST
Polyvinyl chloride(PVC)	PVC
Polyamide(PP)	PP
Aramide(D)	AD
Nylon	NN
Cotton Duck	CC
Vinylon fabric	VN

- **Breaking tension – Mandatory**

The breaking tension indicates a numeric reference of the strength that the belt withstands before breaking.

- **Norm – Optional**

Code of the international standardization regulations.

- **Nº of shims/insertions – Mandatory**

Number of shims/ insertions that compose the belt. The below picture shows an example of a standard conveyor belt.

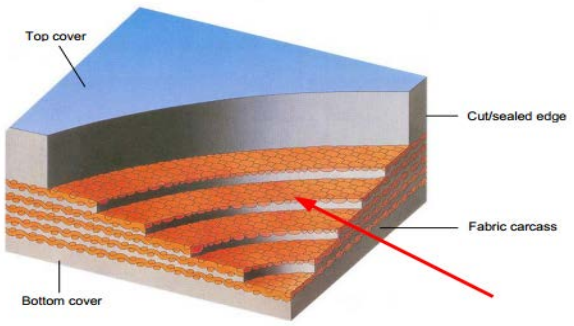


Diagram of a conventional multi-ply conveyor belt

- **Thickness of upper ply – Mandatory**

This characteristic indicates the thickness of the material between the first insertion and the upper surface which is contact with the material.

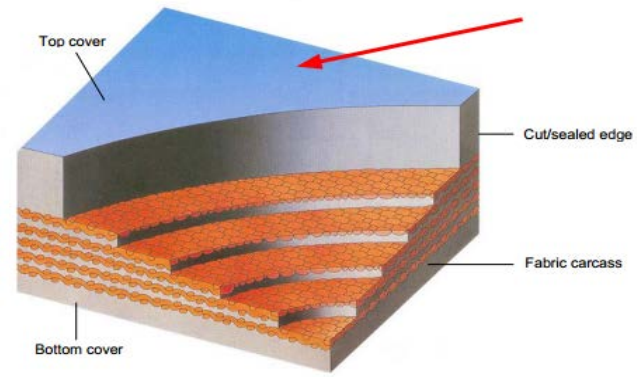


Diagram of a conventional multi-ply conveyor belt

- **Thickness of below ply – Mandatory**

This characteristic indicates the thickness of the rubber between the last insertion and the lower surface which is not in touch with the material.

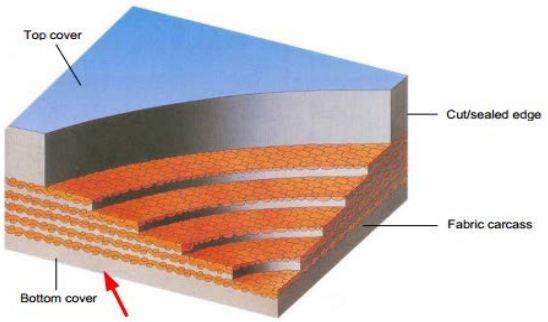


Diagram of a conventional multi-ply conveyor belt

- **Feature of upper plies – Mandatory**

This characteristic refers to special characteristics or features that the belt has. In the table the features are listed with the codification:

Feature of upper ply	Codification
Standard	STD
Wear resistant	WR
High Temperature Resistance + 3 digits Celsius degrees	HTR
Fire resitant	FR
OIL REASISTANT	G
ANTISTATIC	E
SYNTHETIC RUBBER	NBR
ANTI-STICK COATING	A-H

- **Value of feature – Mandatory**

If the belt has the feature heat resistance, in this characteristic the continuous working temperature has to be inserted

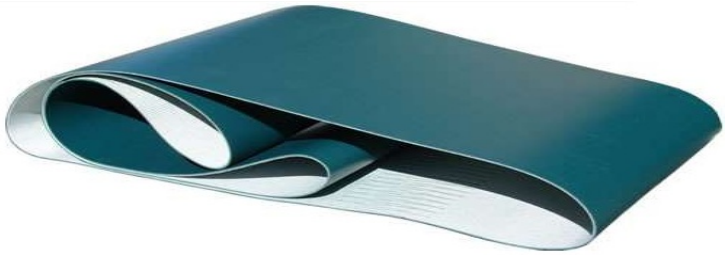
- **Belt surface – Mandatory**

This characteristic describes the structure of the surface.

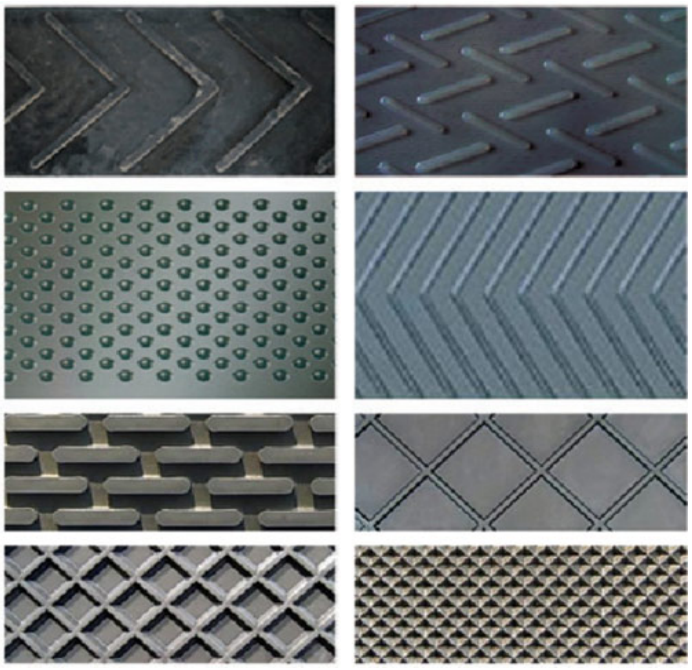
BELT SURFACE	Abbrev
CLEATED	CLT
RIBBED	RBD
SMOOTH	SMO
SIDEWALL	SIDEW
HONEYCOMB	HONEY
SIDEWALL CLEATED	SIDECLT

Example of different surfaces:

Smooth:

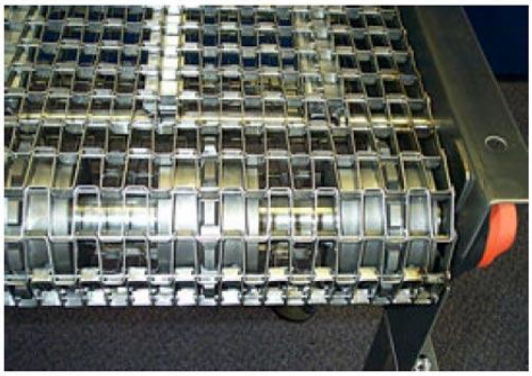


Ribbed:



Cladded:

Honeycomb:



Sidewall cleated

- **DIN 22102 - Optional**

The DIN norm for a belt is usually DIN 22102, antistatic belts have DIN 22131. In the table you can see the indication of .

Standard	Type	Tensile strenght	Elongation at break	Abrasion	Comments
		Mpa	%	mm3	
DIN 22102	Z	15	350	250	Low abrasion (normal wear resistance)
DIN 22102	Y	20	400	150	Medium abrasion
DIN 22102	X	25	450	120	Medium abrasion and increased strength
DIN 22102	W	18	400	90	High abrasion
DIN 22102	E	NA	NA	NA	With antistatic covers
DIN 22131	K	17	400	200	Antistatic & fire resistant
DIN 22131	S	17	350	180	Antistatic, fire resistant & flame cover
DIN 22102	T100	12	200	NA	Working temperature below 100 ºC
DIN 22102	T125	10	200	NA	Working temperature below 125 ºC
DIN 22102	T150	5	180	NA	Working temperature below 150 ºC
DIN 22102	R	NA	> 350	NA	Cold resistant
DIN 22102	G	NA	NA	NA	Oil and grease resistant
DIN 22102	C	NA	NA	NA	For chemical products

- **Belt width - Mandatory**

Belt width is measurement in mm. The width is the measurement from side to side. Below you can find some of the most repeated widths which is indicated in [mm]:

250	1000
400	1200
450	1350
500	1400
550	1600
600	1800
650	2000
700	2100
780	2400
800	2600
900	3000

- **Length of belt (mandatory or optional depending on type of belt)**

  Conveyor Belts – Optional

  - In case of conveyor belts, the length is depending on the size and shall be used as an indication of the meters of belt on a drum, if known.
  - The available length is available in SAP MM an changes with the good issues and receipt.

  Elevator Belts – Mandatory

  - In case of bucket elevator belt the length is mandatory. The length give the indication of the height of the bucket elevator.
  - In material master data the unit used is [m] for the length

  Special Belts – Mandatory

  - In case of special (endless) belts it is the indication of the size of the dosing system.
  - In material master data the unit used is pieces – one belt one piece

- **OEM**

  Conventional Belts – Optional

  - Conventional conveyor belts can be produced by different supplier. If the standards are maintained the performance of the belt should be similar.

  Elevator Belts – Mandatory

  - Elevator belts have special features depending on the OEM, as for example the prepared holes to fix the buckets.

  Special/endless Belts – Mandatory

  - Special/endless belt for dosing system can be different depending on the OEM. In many cases they have special insertions which are used by the dosing system electronics to determine a correct functioning.

In the table the major supplier and the abbreviations used in the Naming Convention are shown.

OEM	Abbrev	OEM	Abbrev
AUMUND	AUMUND	HAVER&BOECKER	H&B
BEUMER	BEUMER	IM-HOF	IM-HOF
CLADIUS PETERS	CP	LENOIR MAGNETIC SYSTEM	LENOIR MS
Herfurth & Engelke	H&E	MOELLERS	MOELLERS
PSP	PSP	NEWTEC	NEWTEC
AMMANN	AMMANN	PHOENIX UNIO SRL	PHOENIX UNIO
CELIK KRIZEVCI	CELIK	REMA-TIPTOP	REMA-TIPTOP
CHIORINO	CHIORINO	FRI	SAT
DELACHAUX	DELACHAUX	SAXLUND	SAXLUND
DiMatheo	DIMATHEO	SC UNIO SA	SC UNIO SA
FLS	FLS	SCHENCK	SCHENCK
FREI	FREI	URAL RTI PLANT	URAL RTI
GUMMI SCHWARZ	GUMMI SCHWARZ	VENTOMATIC	VENTOMATIC
GUMMILABOR	GUMMILABOR	Vulkanisiertechnik Nord	VULKA_NORD
HASLER	HASLER	WAGNER MAGNETE	WAGNER MAG

4. Naming convention in material description

A specific language in SAP was developed to generate the material description for standard naming convention, this language is called “Z2”. When a material is created, a description will be automatically generated, based on the content of the different characteristics.

The fields that complete the “Short description” and “Long description” in the belts are as follows:

Short Description:

<Commodity> <Carcass Type> <Breaking Tension> <Nº of shims> <Feature of upper plies> <Belt Width>

Long Description:

<Commodity> <Carcass Type> <Breaking Tension> <Norm> <Nº of shims> <Thickness of upper ply> <Thickness of below ply> <Feature of upper plies> <Value of feature> <Belt surface> <DIN 22102> <Belt width> < Length of belt> <OEM> <Warehouse Type>

Short Description:

BELT CONV 800 MM ST 630 4 HTR

Long Description:

BELT CONV 800 MM ST 630 4 HTR 150 SMO 4,0 MM 3,0 MM Y 150 M SAVA KRANJ VW