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Conveyor belts — Guidelines for storage and handling

Courroies transporteuses — Lignes directrices pour le stockage et la manutention

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5285 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*.

This third edition cancels and replaces the second edition (ISO 5285:2004), which has been technically revised.

Conveyor belts — Guidelines for storage and handling

1 Scope

This International Standard gives guidelines for creating the most suitable conditions for the storage and handling of conveyor belts. It is not applicable to light conveyor belts, as described in ISO 21183-1.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2230, *Rubber products — Guidelines for storage*

3 Packing

3.1 Coiling

Belting is generally packed in a coiled form. Core inserts are not always necessary, but for large, heavy belts or where stacking or excessive handling is anticipated (e.g. for overseas delivery), the cores used should be capable of withstanding the loads without damage or collapse. Cores made of wood or steel are recommended, having a square hole in the centre to accept a mounting bar. The diameter of the centre core, and the hole for the bar, depends on the mass, width and physical characteristics of the belting in the roll. Preferred hole sizes accommodate bars 50 mm, 100 mm, 150 mm and 200 mm square. It is important that the coil be wound

a) tightly enough to prevent telescoping of the layers in subsequent handling and storage, and

b) "square and true", i.e. the top and bottom of the roll have a flat profile across the width of the belt; the edges of the belt in each layer of the coil should all be in line and at 90° to the outer surface.

3.2 Strapping

3.2.1 Coiled belting should be bound circumferentially by textile, plastic or steel strapping. For double-coiled belts, the configuration should be as shown in Figure 1.

3.2.2 Textile/plastic strapping should not be used for underground belting unless the material is acceptable to the purchaser after suitable risk assessment.

3.2.3 It should be noted that textile or fabric strapping can be subject to stretch or "creep", causing gradual instability of the coil or a tendency to burst open if the coil is dropped. The possibility and consequence of these occurrences should be assessed before selection of the strapping type.

3.2.4 Strapping should have a suitable guaranteed minimum breaking load, be resistant to degradation for the storage life/conditions envisaged and be of sufficient width to prevent damage of the belt surface due to cutting.

3.3 Protection

3.3.1 The belting may be protected by paper, hessian, plastic sheeting, rubberized fabric or any other suitable covering material. All combustible protective packaging should be removed from any belt intended for underground use before the belt is taken underground.

3.3.2 Heavy rolls and rolls which have to travel large distances may be contained in timber-sided drums or crates. This is particularly relevant to steel cord belting.

3.3.3 If the packaging completely covers the belt, all relevant details of the belt should be written clearly on the outer wrapping.

3.3.4 Special packing and protection requirements may apply for certain belts and locations. These should be agreed between the manufacturer and the purchaser at the time of ordering.

3.4 Endless belts

Endless belts may be despatched in roll form or in crates, depending on size, but it is essential that the loop ends be protected from crushing by the insertion of suitable sized cores.

4 Storage

4.1 Environmental conditions

4.1.1 General

Storage indoors is usually preferable but if storage outdoors is unavoidable, the belting should be protected by covering with tarpaulin or other suitable material.

However, it may be permissible to store outdoors, without covering, belts which contain 100 % synthetic carcasses and which are protected by ozone- and weather-resistant compounds, unless storage time is measured in years or the ambient conditions are extreme.

Preferred rubber storage conditions are specified in ISO 2230.

4.1.2 Temperature

Extremes of temperature should be avoided.

Belting should be stored away from direct sources of heat, such as boilers, radiators or direct sunlight.

If stored at temperatures below 0 °C, it may be necessary, before handling or unrolling, for the belting to be conditioned for at least 24 h at a temperature of not less than 10 °C in order to improve flexibility and reduce the risk of belt damage.

4.1.3 Humidity

Belting should be kept dry and any packaging used should not cause internal condensation. This is particularly important for belting containing fabric made from natural fibres.

4.1.4 Light

Belts, particularly those containing rubber, should be protected from light, especially direct sunlight and strong artificial light with a high ultraviolet content.

4.1.5 Ozone

Ozone is particularly deleterious to some types of rubber. Belts should not be stored in any room containing equipment, which is capable of generating ozone, such as fluorescent or mercury vapour lamps, high-voltage electrical equipment or other items which can give rise to electric sparks or discharges.

Combustion gases and organic vapours should also be excluded as they can produce ozone via photochemical processes.