
Conveyor belts — Specification for rubber- or plastics-covered conveyor belts of textile construction for underground mining

*Courroies transporteuses — Spécification pour courroies
transporteuses à structure textile recouvertes de caoutchouc ou de
plastique, pour utilisation dans les mines souterraines*





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Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Construction	2
5 Length	3
6 Width	3
7 Rubber cover	4
8 Tolerances on total belt thickness and cover thickness	4
8.1 Tolerance on total belt thickness.....	4
8.2 Tolerance on cover thickness.....	4
9 Transverse fabric joints in multi-ply belting	5
9.1 General.....	5
9.2 Outer plies.....	5
9.3 Inner plies.....	5
9.4 Adjacent plies and non-adjacent plies.....	5
9.5 Joints in same ply.....	5
9.6 Mono-ply, duo-ply and solid woven belting.....	5
10 Longitudinal fabric joints	5
10.1 Multi-ply belting.....	5
10.1.1 Spacing of joints.....	5
10.1.2 Number of joints.....	5
10.2 Fabric joints in duo-ply belting.....	6
10.3 Longitudinal joints in solid woven and mono-ply belting.....	6
11 Elongation	6
12 Full thickness tensile strength	6
13 Adhesion	6
14 Troughability	7
15 Sampling	7
16 Designation	7
17 Marking	8
Annex A (informative) Items to be agreed between manufacturer and purchaser	10
Annex B (informative) Helpful information to be supplied by the purchaser	11
Annex C (informative) Lateral drift (straight running)	13
Bibliography	14

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 41 *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 188, *Conveyor belts*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces first edition (ISO 22721:2007), which has been technically revised.

The main changes are as follows:

- the warning before the Scope was removed;
- the footnote and related widths were removed from [Table 3](#);
- editorial changes were done.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Conveyor belts — Specification for rubber- or plastics-covered conveyor belts of textile construction for underground mining

1 Scope

This document specifies requirements for rubber- or plastics-covered conveyor belting of textile construction for use in underground mines and disposed on flat or troughed idlers. It is not applicable to light conveyor belts as described in ISO 21183-1.

This document does not include requirements for plastics covers. These are agreed upon by the manufacturer and purchaser, taking into account the type of plastics to be used.

Related items that are not requirements of this document, but which it is recommended be agreed upon by the manufacturer and purchaser, are included in [Annex A](#).

Details recommended to be supplied by the purchaser of belting with an enquiry are given in [Annex B](#).

The ability of a belt to run straight cannot be assessed until the belt is installed. Requirements for this are, therefore, outside the scope of this document; nevertheless, recommendations for lateral drift are given in [Annex C](#).

Attention is drawn to local regulations for safety which might be in place where the belts are to be used.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 252, *Conveyor belts — Adhesion between constitutive elements — Test methods*

ISO 282, *Conveyor belts — Sampling*

ISO 283, *Conveyor belts — Full thickness tensile strength, elongation at break and elongation at the reference force — Test method*

ISO 583, *Conveyor belts with a textile carcass — Total belt thickness and thickness of constitutive elements — Test methods*

ISO 703, *Conveyor belts — Transverse flexibility (troughability) — Test method*

ISO 1120, *Conveyor belts — Determination of strength of mechanical fastenings — Static test method*

ISO 4649:2017, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 16851, *Textile conveyor belts — Determination of the net length of an endless (spliced) conveyor belt*

EN 14973, *Conveyor belts for use in underground installations — Electrical and flammability safety requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 slab belting

conveyor belting made in wide widths and long lengths for subsequent slitting and cutting into narrower widths and shorter lengths to suit individual conveyor installations

3.2 solid woven belting

conveyor belting consisting of a carcass of more than one ply, the plies being interlocked in the weave or bound together by binding threads in the course of weaving

3.3 mono-ply belting

conveyor belting with a carcass consisting of one ply of woven fabric

3.4 duo-ply belting

conveyor belting with a carcass consisting of two plies of woven fabric bonded together by an intermediate layer of elastomer of sufficient thickness to allow the incorporation of a tension element in the joint

3.5 multi-ply belting

conveyor belting with a carcass of two or more plies of woven fabric, the adjacent plies being bonded together by an intermediate layer of elastomer

3.6 primary yarn

load-carrying yarn which contributes more than 50 % of the full thickness tensile strength

3.7 secondary yarn

load-carrying yarn which contributes less than 50 % of the full thickness tensile strength

4 Construction

The carcass shall consist either of one or more plies of woven fabric, or of solid woven fabric, and shall be impregnated or coated with a rubber or plastic.

If a breaker consisting of open mesh fabric or cord fabric or cord layer is placed between the cover and carcass, or is embedded in the cover for the purpose of carcass protection, such a layer shall be considered to be part of the cover thickness and shall not be counted as a fabric ply.

If a fabric pile is integrally woven with the carcass on either one or both surfaces of the carcass, it shall be considered to be part of the carcass thickness.

NOTE The external surfaces of the conveyor belt generally consist of a specified thickness and quality of elastomeric material.