



SLOVENSKI STANDARD
kSIST FprEN ISO 7623:2015
01-september-2015

Trakovi tračnih transporterjev z jeklenim vložkom - Sprijemna sposobnost med jeklenimi in tekstilnimi vložki - Preskus novega traku in traku po toplotni obdelavi (ISO/FDIS 7623:2015)

Steel cord conveyor belts - Cord-to-coating bond test - Initial test and after thermal treatment (ISO/FDIS 7623:2015)

Stahlseil-Fördergurte - Haftung zwischen den Seilen und Kernschicht - Prüfung im Anlieferungszustand und nach thermischer Behandlung (ISO/FDIS 7623:2015)

Courroies transporteuses à câbles d'acier - Adhérence des câbles dans l'enrobage - Essais à l'état original et après traitement thermique (ISO/FDIS 7623:2015)

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Steel cord conveyor belts — Cord-to-coating bond test — Initial test and after thermal treatment*Courroies transporteuses à câbles d'acier — Adhérence des câbles dans l'enrobage — Essais à l'état original et après traitement thermique***iTeh STANDARD PREVIEW**
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Reference number
ISO/FDIS 7623:2015(E)

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ISO/CEN PARALLEL PROCESSING

This final draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement. The final draft was established on the basis of comments received during a parallel enquiry on the draft.

This final draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel two-month approval vote in ISO and formal vote in CEN.

Positive votes shall not be accompanied by comments.

Negative votes shall be accompanied by the relevant technical reasons.

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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.

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 documents 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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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*.

This third edition cancels and replaces the second edition (ISO 7623:1996), which has been technically revised. <https://standards.iteh.ai/catalog/standards/sist/b84a1bee-2671-4804-9450-9c3b52ace931/sist-en-iso-7623-2016>

Steel cord conveyor belts — Cord-to-coating bond test — Initial test and after thermal treatment

1 Scope

This International Standard specifies a method for determining the bond strength of metal cords to their surrounding coating, either in the initial state or after thermal treatment.

It applies exclusively to metal-carcass conveyor belts.

2 Normative references

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

ISO 18573, *Conveyor belts — Test atmospheres and conditioning periods*

ISO 7622-2, *Steel cord conveyor belts — Longitudinal traction test — Part 2: Measurement of tensile strength*

3 Principle

Measurement of the force required to tear one of the steel warp cords out of the carcass by applying tensile stress along the axis of the cord.

4 Apparatus

4.1 Dynamometric tensile testing machine with jaws, in accordance with that described in ISO 7622-2.

4.2 Press, having two heated platens, temperature controlled to $145\text{ °C} \pm 5\text{ °C}$, and capable of applying a pressure on the specimen (see [Clause 6](#)) of between 1 MPa and 5 MPa.

5 Test conditions

Unless otherwise specified and cited in the test report, the tests shall be carried out at a temperature of $23\text{ °C} \pm 2\text{ °C}$ and at a relative humidity of $(50 \pm 5)\%$, in accordance with ISO 18573, Atmosphere B.

5.1 Test in the initial state, carry out the test described in [Clause 8](#) at least five days after manufacture of the belt.

5.2 Test after thermal treatment, carry out the test described in [Clause 8](#) after thermal treatment of a sample of the belt by heating it between the two platens of the press ([4.2](#)) for $150\text{ min} \pm 1\text{ min}$, at a temperature of $145\text{ °C} \pm 5\text{ °C}$ and at a surface pressure of about 1 MPa but not exceeding 5 MPa.

If different temperatures or pressures or the duration of their application are used, details should be specified in the test report.

NOTE An adequate surface pressure can be obtained using spacers of a thickness of the belt test piece minus $1\text{ mm} \pm 0,5\text{ mm}$ between the platens of the press.

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6 Specimens

Take from the sample of the belt piece undergoing thermal treatment, or not, three specimens of the following dimensions:

- length in the longitudinal direction of the belt, SL_{\min} : 350 mm for cords up to 5 mm in diameter, or 450 mm for cords over 5 mm in diameter;
- width: such that the specimen contains five warp cords;
- thickness: thickness of the belt including both covers.

In the centre of the specimen, trace the limits of the test length L , defined in [Table 1](#).

Table 1 — Test length, L , corresponding to the diameter, D , of the warp Cords

Dimensions in millimetres		
D		
$D \leq 2$	$2 < D \leq 5$	$5 < D$
L		
25 ± 1	50 ± 2	100 ± 2

Using a knife, remove the cover and weft, if any, along at least 10 mm on either side of the test length L , so that the five warp cords are laid bare on both sides.

On one side, cut the centre cord as close as possible to the test area (see [Figure 1](#) or [Figure 2](#)).

On the other side, cut the four cords on either side of the centre cord, as close as possible to the test area (see [Figure 1](#) or [Figure 2](#)).

With a knife, detach the coating at the ends of the cut cords.

Take care not to damage the cord to be bond-tested.

7 Conditioning

Condition the test specimens, selected in accordance with [Clause 6](#), for a period of not less than 3 h at $23 \text{ °C} \pm 2 \text{ °C}$ and (50 ± 5) relative humidity, immediately prior to testing in accordance with [Clause 8](#).

8 Procedure

Set the distance between the jaws of the testing machine ([4.1](#)) at $250 \text{ mm} \pm 10 \text{ mm}$.

Place the ends of the specimens between the jaws and, for jaws with self-tightening wedges, check that the various Parts of these jaws move freely and smoothly.

Apply a continuous tensile stress to the specimen (with no pauses) at a speed of $(100 \pm 10) \text{ mm/min}$.

Maintain the tractive force until the steel cable is completely torn out.

NOTE The highest tractive force, which is defined as the tear-out force.

Repeat the test on the two other specimens.