

INTERNATIONAL STANDARD

ISO
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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*



Reference number
ISO 7623:1996(E)

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.

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.

International Standard ISO 7623 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*.

This second edition cancels and replaces the first edition (ISO 7623:1984), which has been technically revised.

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 standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 471:1995, *Rubber — Temperatures, humidities and times for conditioning and testing*.

ISO 7622-2:1984, *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 $145\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, 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 $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ and at a relative humidity of $(50 \pm 5)\%$, in accordance with ISO 471.

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 $145\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ and at a surface pressure of about 1 MPa but not exceeding 5 MPa.

NOTES

1 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.

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