



SLOVENSKI STANDARD SIST EN ISO 283-1:2001

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Textile conveyor belts - Full thickness tensile testing - Part 1: Determination of tensile strength, elongation at break and elongation at the reference load (ISO 283-1:2000)

Textilfördergurte - Zugversuch bei voller Gurtdicke - Teil 1: Bestimmung der Bruchfestigkeit, Bruchdehnung und der Dehnung bei Bezugskraft (ISO 283-1:2000)

Courroies transporteuses a carcasse textile - Essai de traction en pleine épaisseur - Partie 1: Détermination de la résistance a la traction, de l'allongement a la rupture et de l'allongement sous charge de référence (ISO 283-1:2000)

Ta slovenski standard je istoveten z: EN ISO 283-1:2000

ICS:

53.040.20 Deli za transporterje Components for conveyors

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 283-1

October 2000

ICS 53.040.00

English version

**Textile conveyor belts - Full thickness tensile testing - Part 1:
Determination of tensile strength, elongation at break and
elongation at the reference load (ISO 283-1:2000)**

Courroies transporteuses à carcasse textile - Essai de traction en pleine épaisseur - Partie 1: Détermination de la résistance à la traction, de l'allongement à la rupture et de l'allongement sous charge de référence (ISO 283-1:2000)

Textilfördergurte - Zugversuch bei voller Gurtstärke - Teil 1: Bestimmung der Bruchfestigkeit, Bruchdehnung und der Dehnung bei Bezugskraft (ISO 283-1:2000)

This European Standard was approved by CEN on 7 November 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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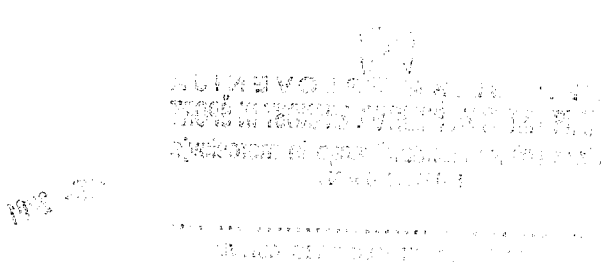
EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

The text of EN ISO 283-1:2000 has been prepared by Technical Committee CEN/TC 188 "Conveyor belts", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 41 "Pulleys and belts (including veebelts)".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2001, and conflicting national standards shall be withdrawn at the latest by April 2001.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard describes a method of test for determining the full thickness tensile strength, elongation at break and elongation at the reference load of conveyor belts having a textile construction.

Methods are in development for tensile strengths greater than 2500 N/mm.

This standard is not suitable or valid for light conveyor belts as described in EN 873.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 873	Light conveyor belts - Principal characteristics and applications
EN 10002-2:1991	Metallic materials - Tensile testing - Part 2: Verification of the force measuring system of the tensile testing machines
ISO 7500-1:1999	Metallic materials - Verification of static uniaxial testing machines - Part 1: Tension/compression testing machines – Verification and calibration of the force-measuring system

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3 Terms and definitions

For the purposes of this European Standard the following terms and definitions apply:

3.1

tensile strength

greatest measured force during the tensile test divided by the width of the test piece. It is expressed in N/mm.

3.2

nominal tensile strength

specified minimum value of the tensile strength expressed in N/mm.

3.3

reference force (reference load)

One-tenth of the nominal tensile strength in the longitudinal direction multiplied by the width of the test piece in mm. It is expressed in newtons.

Example:

Nominal tensile strength = 1600 N/mm

Reference force = 160 N/mm

Reference force for 25 mm test piece = 25 mm x 160 N/mm = 4000 N.

3.4**elongation at break**

elongation at the greatest force (load), expressed as the percentage increase in the distance between two reference points.

3.5**elongation at the reference force (load)**

elongation at the reference force (load) in the longitudinal direction, expressed as the percentage increase in the distance between two reference points.

4 Principle

A test piece, cut from the full thickness of the conveyor belt, is extended under standard conditions using a tensile testing machine, until rupture of the test piece occurs.

5 Apparatus

5.1 Dynamometer, of CRE or CRT type, calibrated to Grade 1 of ISO 7500-1:1999, or EN 10002-2:1991 and capable of extending the test piece at a constant rate, without interruption, of 100 ± 10 mm/min.

5.2 Grips, the form of which should ensure perfect fixing of the test piece and eliminate any possibility of slip during the tensile test. The use of grip with transverse serrations in accordance with Figure 1 is recommended.

Dimensions in millimetres

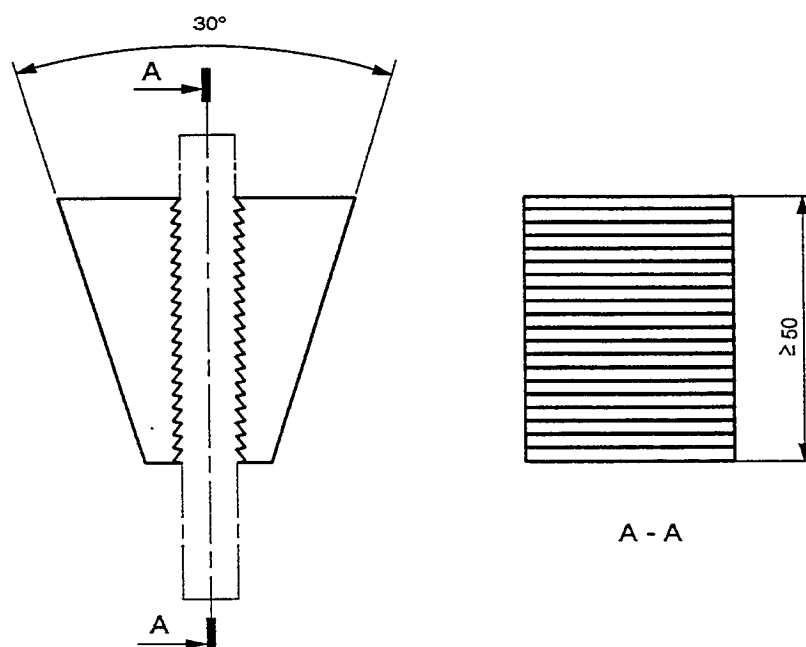


Figure 1 - Grip with transverse serrations

5.3 Die cutter or power saw. Dies with wall profiles as shown in Figure 2 are suitable for cutting the test pieces shown in Figures 3, 4 and 5. Other profiles may be used but the critical feature is that the cut sides of the test piece are perpendicular to the test piece surfaces.

Dimensions in millimetres

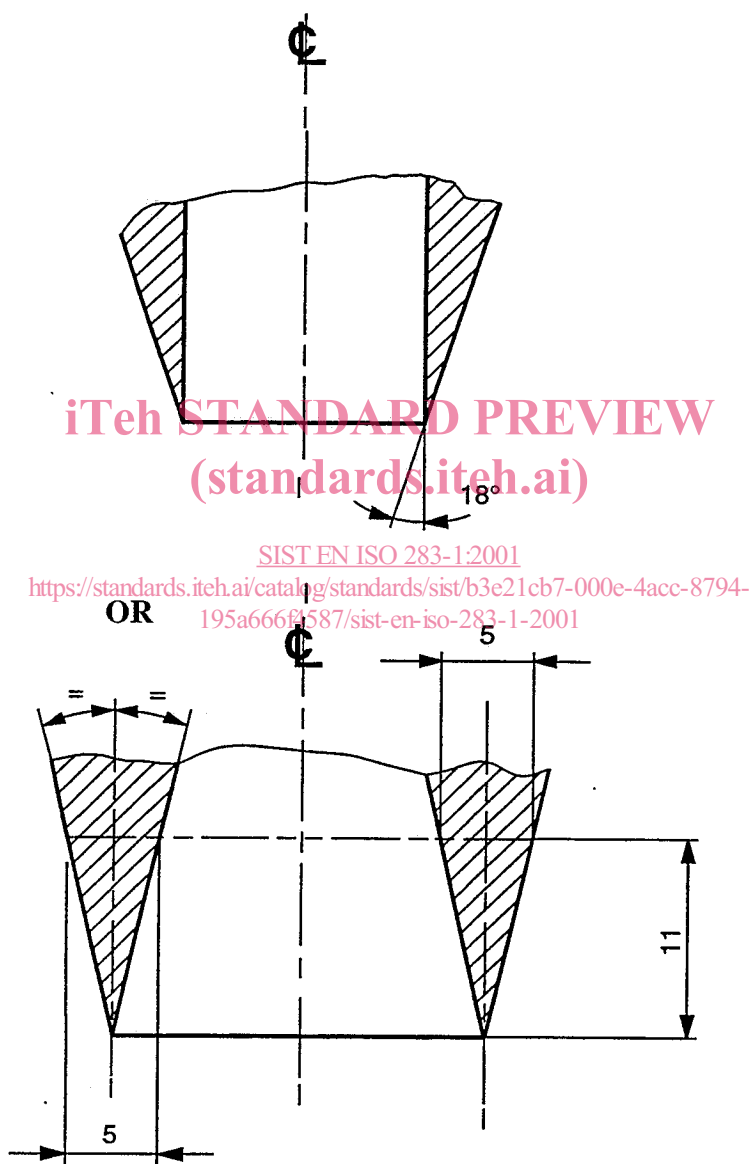


Figure 2 - Suitable die profiles

NOTE If rubber covers are to be cut it is advisable to moisten the die and surface to be cut with an aqueous solution.

6 Test pieces

6.1 Number of test pieces

Three test pieces shall be selected from the longitudinal direction of the belt and three test pieces shall be selected from the transverse direction of the belt.

6.2 Method of selection of test pieces

Test pieces shall be selected parallel to or at right angles to the axis of the belt, and at not less than 50 mm from the edge of the belt. If test pieces are selected from a sample cut from the belt, no test pieces shall be cut with its longitudinal edge less than 12 mm from the edge of the sample. In all cases the cut or sawn sides of the test piece shall be perpendicular to its surfaces. No test piece shall contain a ply joint.

For a test piece of type D, draw the form of the test piece on the surface of the belt or sample and from each longitudinal edge of the sample cut at five places with a power saw up to the drawn lines (see Figure 6).

NOTE The type D test piece illustrated in Figure 6 should be limited to the testing of conveyor belts having tensile strengths greater than 2000 N/mm.

6.3 Shape and dimensions

The shape and dimensions of the test piece shall be in accordance with either Figure 3, 4, 5 or 6.

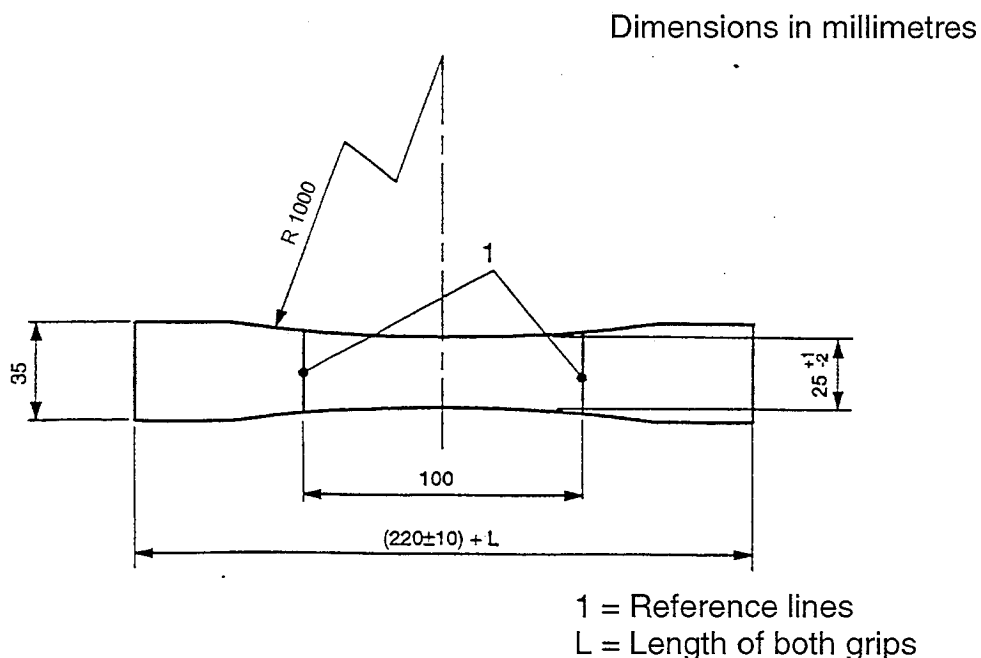


Figure 3 - Type A test piece