SLOVENSKI STANDARD
SIST EN 1722:1999

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Naprave za kontinuirni transport - Lahki trakovi traļ nih transporterjev - Postopek meritve elektrostatiļ nega polja pri delovanju transporterja

Light conveyor belts - Test method for the determination of the maximum tensile strength

Leichte Fördergurte - Prüfverfahren für die Bestimmung der größten Zugfestigkeit

Courroies transporteuses légeres - Méthodes d'essai pour la détermination de la résistance maximale a la traction

Ta slovenski standard je istoveten z: EN 1722:1999

ICS:

53.040.20 Deli za transporterje Components for conveyors

SIST EN 1722:1999 **en**

EUROPEAN STANDARD
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English version

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This European Standard was approved by CEN on 8 January 1999.

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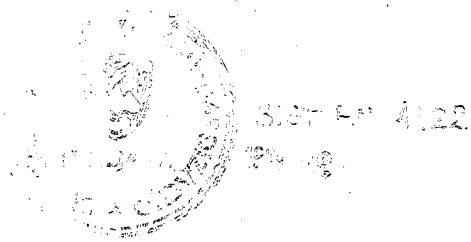

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 188 "Conveyor belts", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by January 2000, and conflicting national standards shall be withdrawn at the latest by January 2000.

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.

1 Scope

This European Standard specifies the test method for the determination of the maximum tensile strength of light conveyor belts as defined by EN 873, or of other conveyor belts where ISO 283 is unsuitable.

2 Normative references

This European Standard incorporates by dated or undated references, 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.

EN 873 Light conveyor belts - Principal characteristics and applications

EN 10002-2 Metallic materials - Tensile testing - Part 2: Verification of the force measuring system of the tensile testing machines

ISO 283 Conveyor belts -Full thickness tensile strength and elongation - Specifications and method of test

ISO 471 Rubber - Temperatures, humidities and times for conditioning and testing

ISO 554 Standard atmospheres for conditioning and/or testing - Specifications

ISO 7500-1 Metallic materials - Verification of static uniaxial testing machines - Part 1: Tensile testing machines

3 Definitions and symbols

For the purposes of this standard the following applies:

3.1 tensile load, in conveyor belt technology, deviates from that commonly used. It is measured in force per unit of belt width in newtons per millimetre, whilst normally it is defined as a stress, i.e. a force per unit of cross section in newtons per square millimetre.

3.2 In light conveyor belt technology, the symbol for the tensile load is k and the maximum tensile strength is designated with k_{max} in newtons per millimetre.

NOTE : In EN 10002-1, the symbol k is used to represent the coefficient of proportionality.

F_{break} is the tensile force in the test piece at break in newtons.

F_{max} is the maximum tensile force in the test piece in newtons

NOTE - F_{max} and F_{break} may be the same but are not necessarily so.

k_{max} is the value of F_{max} divided by the width in millimetres of the narrowest part of the test piece at the start of the test

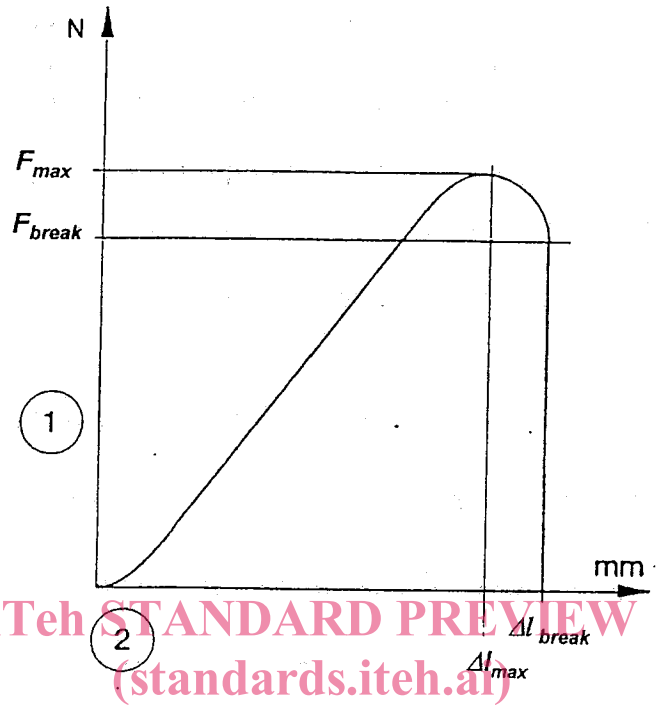
Δl is the actual increase in length of the test piece between the jaws in millimetres during the test

Δl_{break} is the increase in length of the test piece between the jaws in millimetres taken at F_{break}

Δl_{max} is the increase in length of the test piece between the jaws in millimetres taken at F_{max}

Δl_M is the increase in length of the distance between the datum marks (see 6.4) in millimetres.

ε_{max} is the value of Δl_{max} or Δl_M divided by the initial length of the test piece or the initial distance between the datum marks and expressed in percent.



1) = **Tensile force *F***
2) = **Elongation of the test piece Δl**

Figure 1 - Dynamometer graph

4 Principle

A test piece, cut from the full thickness of the conveyor belt in the longitudinal direction, is tensile tested and the tensile force is recorded as a function of the belt elongation. From that graph, the maximum tensile strength is determined by calculation.

5 Apparatus

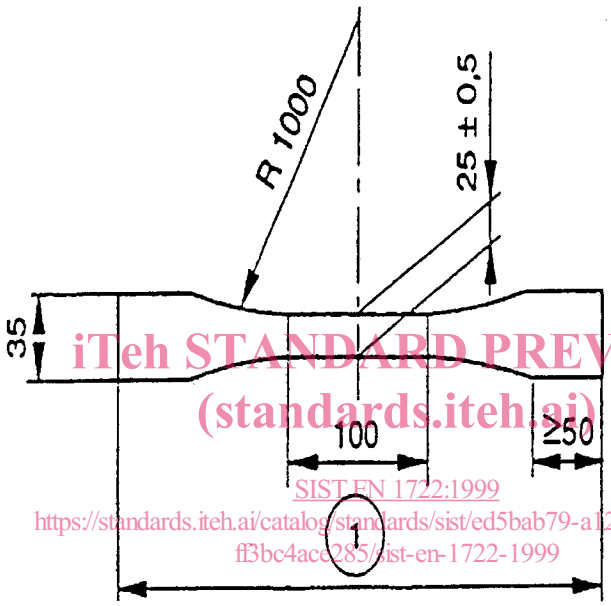
Tensile testing machine (dynamometer), capable of applying a load suitable for the maximum tensile strength of the test piece and with a force measuring system in accordance with EN 10002-2, or ISO 7500-1,Class of machine 3 or better (e.g. Class of machine 2).

6 Test piece

6.1 Shape and dimensions

The test piece shall be cut from the full thickness of the conveyor belt in the longitudinal direction. Its shape and dimensions shall be in accordance with figure 2.

Dimensions in millimetres



1) = **220** + (2 x **length of a jaw**)

Figure 2 - Shape and dimensions of test piece

NOTE : For certain types of belt construction, the shapes of the test pieces illustrated in Figure 2 may produce abnormal and unequal stress distributions in the threads, causing systematic slip in the jaws, giving misleading results. Under such circumstances the test may be conducted using test pieces of a different shape, (see for example ISO 1421 and ISO 5081)".