



SLOVENSKI STANDARD
SIST EN 12031:1997
01-avgust-1997

Samolepilni trakovi - Merjenje razpočne trdnosti

Self-adhesive tapes - Measurement of bursting strength

Klebebänder - Messung des Berstwiderstandes

Rubans auto-adhésifs - Mesure de la résistance à l'éclatement

Ta slovenski standard je istoveten z: EN 12031:1996

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ICS:

83.180 Lepila Adhesives

SIST EN 12031:1997 **en**

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EUROPEAN STANDARD

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English version

Self adhesive tapes - Measurement of bursting strength

Rubans auto-adhésifs - Mesure de la résistance à l'éclatement

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CEN

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 the Technical Committee CEN/TC 253 "Self adhesive tapes", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by November 1996, and conflicting national standards shall be withdrawn at the latest by November 1996.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 standard specifies a method to measure the hydrostatic pressure required to burst an adhesive tape.

2 Normative reference

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. For undated references the latest edition of the publication referred to applies.

ISO 2758 Paper - Determination of bursting paper.

3 Definition

For the purposes of this standard the following definition applies :

bursting strength : The ability of a tape to resist damage when force is applied perpendicularly to the surface of the tape.

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4 Principle

A test piece of adhesive tape is subjected to an evenly distributed pressure, usually exerted from below by means of an elastic diaphragm, and the bursting pressure is measured.

5 Apparatus

Bursting strength tester (Mullen type or any type complying with ISO 2758), with the following main characteristics :

5.1 Clamping device

To allow to the test piece to be clamped between 2 ring-shaped surfaces, with a minimum external diameter of 30 mm, in such a way that no slipping occurs during the test. Throughout the test, the upper clamping ring should remain almost concentric and parallel to the lower clamping ring.

5.2 Elastic diaphragm

The elastic diaphragm is maintained between the lower clamping ring and the framework of the equipment; initially the upper surface of the diaphragm should be at a distance of about 0,2 mm below the clamping plane, so that it is in contact with the test piece from the beginning of the test. The diaphragm should be capable of withstanding any working pressure likely to be encountered, without permanent distortion.

5.3 Pressure generator

This is formed by a device producing an increasing controlled hydraulic pressure under the elastic diaphragm. This pressure is produced by a piston forcing a liquid into a pressure chamber at a constant speed of $95 \text{ ml/min} \pm 10 \text{ ml/min}$ (for automatic equipment) or 120 revolutions per minute (for a manual system). A suitable device should enable the pressure generator to be stopped or its direction reversed, at the moment of bursting. A pressure indicator should be provided which records the maximum pressure reached and to record it even after the pressure gauge has returned to zero. Pressure gauges shall be used for test pressures between 10 and 75% of the maximum of their calibrations.

6 Test pieces

Condition the rolls for 24 hours at $23 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$ and $50 \% \pm 5 \%$ relative humidity before testing.

Discard the 3 outer turns of adhesive tape from each roll.

Take from each roll 5 test pieces.

The test pieces shall be taken from adhesive tapes with a width in excess of the external diameter of the ring-shaped surfaces.

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7 Procedure

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7.1 Standard test conditions [SIST EN 12031:1997](#)

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The tests shall be carried out at $23 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$ and $50 \% \pm 5 \%$ relative humidity.

7.2 Zero the pressure gauge to be used.

Place the test piece on the platen of the machine, adhesive side upwards, taking care to avoid any distortion of the test piece, then tighten it sufficiently to avoid slipping.

Apply the pressure until the test piece bursts and record the pressure at the moment of bursting.

Disregard results where a clean break occurs at the edges of the test piece (through excessive clamping or rotation of the clamping rings).

Repeat the test on five test pieces.

8 Expression of results

The resistance to bursting shall be the average of the results obtained.

Express results in megapascals (MPa).

9 Test report

The test report shall include the following information :

- a) a reference to this European Standard ;
- b) all information necessary to identify the test sample ;
- c) the dimensions of the diaphragm on the bursting machine used ;
- d) the date of the test ;
- e) the results obtained ;
- f) any operation not specified in this European Standard which may influence the results.

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