



SLOVENSKI STANDARD
SIST EN 1941:1997
01-avgust-1997

Samolepilni trakovi - Merjenje raztezka ob utrgu

Self-adhesive tapes - Measurement of elongation at break

Klebebänder - Messung der Reißdehnung

Rubans auto-adhésifs - Mesure de l'allongement à la rupture

Ta slovenski standard je istoveten z: EN 1941:1996

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ICS:

83.180 Lepila Adhesives

SIST EN 1941:1997 **en**

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EUROPEAN STANDARD

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English version

Self adhesive tapes - Measurement of elongation at break

Rubans auto-adhésifs - Mesure de l'allongement
à la rupture

Klebebänder - Messung der Reißdehnung

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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA ZNANOST IN TEHNOLOGIJO
Urad RS za standardizacijo in meroslovje
LJUBLJANA

SIST..... EN 1941

PREVZET PO METODI RAZGLASITVE

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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 Technical Committee CEN/TC 253 "Self adhesive tapes" of which the secretariat 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of an identical text or by endorsement, at the latest by August 1996, and conflicting national standards shall be withdrawn at the latest by August 1996.

According to the CEN/CENELEC Internal Regulations, 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 elongation of a self adhesive tape when it is subjected to a tensile force sufficient to cause it to break.

The elongation at break of the adhesive tape is of value as an indication of its uniformity and quality, as well as a rough indication of its ability to conform to curved and irregular surfaces. It is usually determined at the same time as the breaking strength.

The maximum width of adhesive tape tested by this method is 25 mm. For adhesive tapes of this width or less, the elongation at break measured corresponds to that as supplied commercially, with factory-cut edges.

For adhesive tapes wider than 25 mm, this test method provides for the tape to be cut down to 25 mm with a well-sharpened instrument. In such cases, because of the better cutting of the edges, the results can be higher than would be found on commercial adhesive tape.

2 Definition

For the purposes of this standard, the following definition applies:

elongation at break - The increase in length of the adhesive tape at the time of breaking as a percentage of the original length.

3 Principle

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The method consists of holding the adhesive tape vertically by the two clamps of a tensile testing machine. The elongation test is carried out until the adhesive tape breaks.

4 Apparatus

Tensile testing machine with the following characteristics :

- the force shall be indicated with a maximum error of 2 % ;
- the speed of the moveable clamp shall be 300 mm/min \pm 30 mm/min ;
- the scale shall be such that the readings obtained are between 15 % and 85 % of the complete scale ;
- the clamps shall be serrated to prevent slipping or tearing of the adhesive tape ;
- if a pendulum machine is used, ensure that the pendulum can swing freely.

5 Test sample and test pieces

Condition the sample roll for 24 hours at 23 °C \pm 2 °C and 50 % \pm 5 % relative humidity.

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

Take from each roll 5 test pieces. Each test piece shall be 200 mm long and the same width as the adhesive tape.

For widths greater than 25 mm, a test piece 25 mm wide shall be cut longitudinally from the adhesive tape. Use a sharp knife to obtain clean-cut edges.

6 Procedure

6.1 The test shall be carried out at the standard conditions of $23\text{ °C} \pm 2\text{ °C}$ and $50\% \pm 5\%$ relative humidity.

6.2 Remove the test pieces radially from the roll at an approximate speed of 300 mm/s, then condition for a further 2 h in the standard test conditions in order to remove all strain and distortion due to unwinding.

6.3 Set the clamps 100 mm apart. Clamp the test piece firmly so that the longitudinal axis is vertical and in line with the direction of the applied force.

Check that the clamps move in the same plane and parallel to the applied force and that the speed of separation is $300\text{ mm/min} \pm 30\text{ mm/min}$.

Reject all test pieces which break within 5 mm of the clamps and carry out sufficient further tests to obtain 5 test pieces which break in the correct manner.

Measure the distance between the clamps at break.

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7 Expression of results

Record the results as the percentage increase in the length of adhesive tape between the clamps when the adhesive tape breaks. Express the results as a percentage to the nearest whole number.

Arrange the five readings in ascending numerical order. Take the central value (median) as the elongation at break of the adhesive tape under test.

Because the results obtained with different tensile testing machines (pendulum or electronic) may be not directly comparable, the type of machine used shall be included in the test report.

8 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 type of tensile testing machine used ;

- d) the date of the test ;
- e) the result obtained ;
- f) any operation not specified in this European Standard which can influence the results.

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