



**SLOVENSKI STANDARD**  
**SIST EN 1942:2003**

**01-julij-2003**

**BUXca Yý U**  
**SIST EN 1942:1997**

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**Samolepilni trakovi - Merjenje debeline**

Self adhesive tapes - Measurement of Thickness

Klebebänder - Messung der Dicke

Rubans auto-adhésifs - Mesure de l'épaisseur

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**Ta slovenski standard je istoveten z: EN 1942:2003**

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**ICS:**

83.180

Lepila

Adhesives

**SIST EN 1942:2003**

**en**

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English version

## Self adhesive tapes - Measurement of Thickness

Rubans auto-adhésifs - Mesure de l'épaisseur

Klebebänder - Messung der Dicke

This European Standard was approved by CEN on 5 December 2002.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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## Foreword

This document (EN 1942:2003) has been prepared by 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of an identical text or by endorsement, at the latest by August 2003, and conflicting national standards shall be withdrawn at the latest by August 2003.

This document supersedes EN 1942:1996.

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

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**EN 1942:2003 (E)****Introduction**

This European Standard has been revised in conjunction with AFERA (Association of European Self Adhesive Tapes Manufacturers) in Europe and PSTC (Pressure Sensitive Tape Council) in USA with the purpose to produce a standard which will be accepted in due course by ISO.

Key changes from EN 1942:1996 are :

- a reduction in the number of measurement from 5 to 3 per test piece ;
- micrometer foot diameter now 8 mm to 16 mm, previously 8 mm to 12 mm ;
- micrometer foot pressure range now 50 kPa to 60 kPa, previously 50 kPa to 70 kPa ;
- measurement to be taken after one second, previously within two seconds.

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## 1 Scope

This European Standard specifies a method to measure the total thickness of both the backing and adhesive layer comprising an adhesive tape.

## 2 Term and definition

For the purposes of this European Standard, the following term and definition applies.

### **thickness of adhesive tape**

vertical distance between the two surfaces of an adhesive tape

## 3 Significance and use

The thickness is an important property of an adhesive tape and is important for certain end uses.

It is useful for quality control and acceptance testing for conformance to specification.

## 4 Principle

The adhesive tape is placed between the pressure foot and platform of a micrometer within controlled pressure limits.

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## 5 Required materials

Appropriate cleaning solvent for the pressure foot.

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## 6 Apparatus

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A micrometer (calliper gauge) with two plane surfaces, the smaller of which is circular and 8 mm to 16 mm in diameter. The faces shall be parallel to within 5 µm and constrained to move apart along an axis perpendicular to them. When the test piece is placed between the faces the pressure exerted by the foot shall be in the range of 50 kPa to 60 kPa.

The micrometer used shall be sensitive to at least 2 µm and have a graduation adapted to this sensitivity.

## 7 Test sample and test pieces

**7.1** Unless otherwise specified condition the roll in an atmosphere maintained at  $(23 \pm 1)$  °C and  $(50 \pm 5)$  % relative humidity (RH).

**7.2** The test piece width shall be greater than the diameter of the foot of the micrometer and at least 50 mm long. The test pieces shall be free from surface irregularities or creases other than the normal surface features of the type of adhesive tape under test.

**NOTE** Nevertheless, this method can be applied to adhesive tapes of width less than the diameter of the circular foot on the micrometer. However, in this case, the value obtained can only be approximate.

**7.3** Unwind and discard at least 3 but not more than 6 outer turns of adhesive tape from the roll before taking test pieces.

**7.4** Unless otherwise specified, remove one test piece per sample roll.

## 8 Procedure

**8.1** Zero the instrument in accordance with the manufacturer's instructions. Clean the pressure foot using a suitable solvent before every measurement.

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**8.2** Place the test piece under the foot of the micrometer, adhesive side up, and lower the pressure foot gently upon the surface of the tape. Record the reading of the dial to the nearest 2 µm one second after lowering the foot. Make two further measurements for each test piece using a different area of the test piece each time. Average the measurements to obtain the thickness value for that test piece.

**8.3** To measure double coated tapes with liner, measure the thickness of the test piece with liner in place as in 8.2. Mark the liner where the measurements were made. Remove the liner and repeat the measurements on the liner only as in 8.2 in the marked positions. Average both sets of measurements subtract the average of the liner from the average of the total (tape plus liner) and record the difference as the thickness of the tape.

**9 Expression of results**

Take as the thickness the arithmetic mean (average) of the measurements made, as described above. Express this in µm.

**10 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 results obtained;
- d) the width of test piece if narrower than the micrometer foot;
- e) any operation not specified in this European Standard which can influence the results;
- f) the date and place of the test; [SIST EN 1942:2003](https://standards.iteh.ai/catalog/standards/sist/4c066ca2-80f8-4186-aa8f-560c7112446a/en-1942-2003)
- g) the name and signature of the person conducting the test; <https://standards.iteh.ai/catalog/standards/sist/4c066ca2-80f8-4186-aa8f-560c7112446a/en-1942-2003>

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