
Lepila za papir in karton za embalažo in za higienske proizvode za enkratno uporabo- Ugotavljanje upogibnosti pri nizkih temperaturah ali temperature loma (porušitve lepilnega spoja) v hladnem

Adhesives for paper and board, packaging and disposable sanitary products - Determination of low temperature flexibility or cold crack temperature

Klebstoffe für Papier, Verpackung- und Hygieneprodukte - Bestimmung des Kaltbruchverhaltens oder der Kaltbruch-Temperatur

Adhésifs pour papier et carton, emballages et produits sanitaires jetables - Détermination de la flexibilité a basse température ou de la température de fissuration a froid

Ta slovenski standard je istoveten z: EN 12703:1999

ICS:

55.040	Materiali in pripomočki za pakiranje	Packaging materials and accessories
83.180	Lepila	Adhesives

SIST EN 12703:2000

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12703

September 1999

ICS 83.180

English version

Adhesives for paper and board, packaging and disposable
sanitary products - Determination of low temperature flexibility or
cold crack temperature

Adhésifs pour papier et carton, emballages et produits
sanitaires jetables - Détermination de la flexibilité à basse
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Klebstoffe für Papier, Verpackung- und Hygieneprodukte -
Bestimmung des Kaltbruchverhaltens oder der Kaltbruch-
Temperatur

This European Standard was approved by CEN on 9 August 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 Central Secretariat 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 Central Secretariat 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

This European Standard has been prepared by Technical Committee CEN/TC 193 "Adhesives", the secretariat of which is held by AENOR.

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 March 2000, and conflicting national standards shall be withdrawn at the latest by March 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.

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1 Scope

This European Standard specifies a method to determine whether a film of adhesive of given dimensions will craze, crack or fracture at a specified temperature.

Alternatively the temperature at which the film will craze, crack or fracture can be determined.

The method described can be used as a quality control test or to compare the flexibility of adhesives at low temperatures.

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.

- <https://standards.iteh.ai/catalog/standards/sist/13640a83-564b-4064-afc4-74ed9abbd5e0/sist-en-12703-2000>
- EN 923 Adhesives - Terms and definitions
- EN 1066 Adhesives - Sampling
- EN 1067 Adhesives - Examination and preparation of samples for testing
- ISO 554 Standard atmospheres for conditioning and/or testing - Specifications

3 Definitions

For the purposes of this standard, the definitions given in EN 923, apply.

4 Principle

An unsupported film of the adhesive, after conditioning, is bent through 180° over specified diameter cylindrical mandrel.

The test piece is then examined for signs of fracture, crazing or cracking.

The test may be carried out either as a pass/fail test or at successively lower temperatures until a failure occurs.

5 Safety

Persons using this standard shall be familiar with normal laboratory practice.

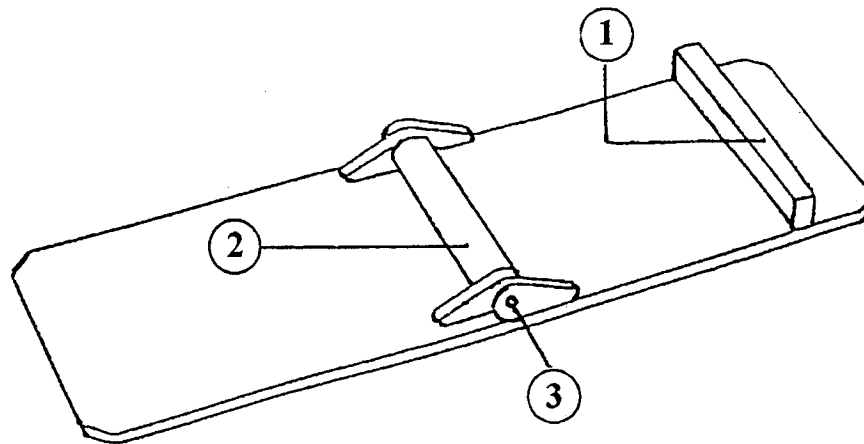
This standard does not purport to address all the safety problems, if any, associated with its use.

It is the responsibility of the user to establish health and safety practices and to ensure compliance with any European or national regulatory conditions.

6 Apparatus iTeh STANDARD PREVIEW

6.1 Bend test apparatus, as shown in figure 1. The mandrel shall be made of rigid and suitably corrosion-resistant material, e.g. stainless steel.

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- 1 Stop of identical height to mandrel
- 2 Mandrel
- 3 Mandrel Pin

Figure 1 - Bend test apparatus

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The diameter of the mandrel shall be $(6,0 \pm 0,1)$ mm and the gap between the surface of the mandrel and the plates of the hinge shall be $(0,55 \pm 0,1)$ mm.

Other dimensions of the apparatus are not critical.

The mandrel shall be free to rotate on its pin and the apparatus shall be provided with a stop to ensure that when the test piece is bent, the two plates of the hinge are parallel.

6.2 Chamber, capable of maintaining a specified temperature to an accuracy of ± 2 °C throughout the test.

NOTE: A suitable range of temperature for most purposes is -40 °C to $+ 20$ °C.

7 Test specimens

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7.1 Sampling

The specimens shall be taken in accordance with EN 1066 and prepared in accordance with EN 1067.

7.2 Dimensions

The thickness of the test specimens shall be $(0,4 \pm 0,1)$ mm but the other dimensions of the test specimens are not critical provided that the test specimen is rectangular and fits into the bend test apparatus. The test specimens shall be without visible flaws.

7.3 Preparation of film from hot-melt adhesive

The adhesive film shall be $(0,4 \pm 0,1)$ mm thick and prepared by any suitable method;

NOTE: A suitable method is placing the adhesive between hot plates of a press using a metallic spacer to keep the plates separated.

8 Conditioning

8.1 Preliminary conditioning

Condition the specimens at a temperature of $(23 \pm 2)^\circ\text{C}$ and $(50 \pm 5)\%$ relative humidity for 24 h in accordance with ISO 554.

8.2 Conditioning

Condition the specimens and test apparatus at the temperature at which the test is to be carried out for a minimum period of 4 h.

9 Procedure

9.1 Pass/fail test

Open fully the bend test apparatus (6.1) and insert a conditioned specimen under the mandrel so that one end is against the stop.

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Close the apparatus in not less than 1 s and not more than 2 s thus bending the specimens around the mandrel through 180° (see figures 1 and 2).

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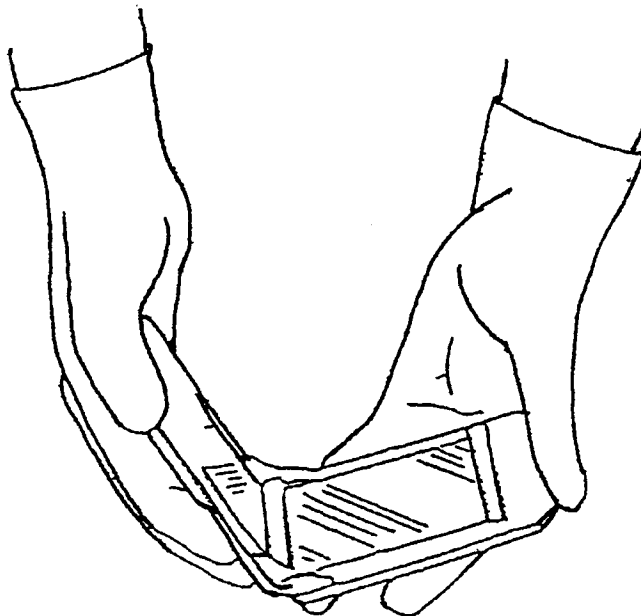


Figure 2 - Bend test apparatus in use