
Samolepilni trakovi - Merjenje sile vezave toplotno utrdljivih lepilnih trakov po sušenju

Self-adhesive tapes - Measurement of bonding of thermosetting adhesive tapes after curing

Klebebänder - Messung der Bindefestigkeit von wärmehärtenden Klebebändern nach der Vernetzung

Rubans auto-adhésifs - Mesure de la séparation de la liaison des rubans thermodurcissables après le traitement thermique

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Ta slovenski standard je istoveten z: EN 12033:1996

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83.180

Lepila

Adhesives

SIST EN 12033:1997**en**

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EUROPEAN STANDARD

EN 12033

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Descriptors: adhesive tapes, thermosetting resins, tests, properties, cross-linking

English version

**Self adhesive tapes - Measurement of bonding of
thermosetting adhesive tapes after curing**

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de la liaison des rubans thermoséables
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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of an identical text or by endorsement, at the latest by November 1996, and conflicting national standards shall be withdrawn at the latest by November 1996.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 observe the bonding of a thermosetting adhesive tape in a hot atmosphere.

2 Definition

For the purposes of this standard the following definition applies :

thermosetting adhesive : One which becomes firmer on heating and remains set regardless of subsequent temperature cycles.

3 Principle

A piece of adhesive tape to be tested is applied overlapping the back of a second piece of the same adhesive tape and is cured according with the manufacturer's instruction. Then this assembly is loaded with a weight, hanging vertically in an oven under specified temperature and time conditions The adhesive joint should not break or slip during this period.

4 Apparatus iTeh STANDARD PREVIEW

4.1 Oven with air circulation capable of 130 °C. (standards.iteh.ai)

4.2 Polished cylindrical metal roller. This shall have a diameter of at least 50 mm and a mass corresponding 2 kg per centimetre width of adhesive tape under test.

4.3 Polished steel plate, approximate dimensions 600 mm x 200 mm x 5 mm, with a guide mark on one of the short sides, which should be parallel and at a distance of 12 mm to one of the short sides.

4.4 500 g masses.

5 Test samples and test pieces

Condition three sample rolls (at least 12 mm wide) for 24 hours at 23 °C ± 2 °C and 50 % ± 5 % relative humidity.

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

Take two test pieces approximate 150 mm long from each sample roll.

6 Procedure

6.1 Preparation of test pieces

A test piece of adhesive tape taken from one of the sample rolls is applied with its adhesive surface on the back of a second test piece taken from the same roll, so that the length of the contact area measures $12\text{ mm} \pm 0,8\text{ mm}$.

6.1.1 Step 1 (figure 1)

To carry out this operation, the first test piece of adhesive tape is applied to the polished steel plate, at roughly the centre of this plate, so that the adhesive tape extends about 50 mm beyond the guide mark.

Carefully cut the adhesive tape with a razor blade along the short side of the plate nearest the guide mark.

6.1.2 Step 2 (figure 2)

Apply the second test piece of adhesive tape on top of the first test piece, as accurately as possible, and along a length of approximately 50 mm from the side of the plate nearest the guide mark.

Pass the metal roller twice, in each direction, over the contact area, at a speed of approximately 10 mm/s. Placing the metal plate at an angle and avoiding any pressure, a razor blade is arranged on the back of the second adhesive tape aligning it with the guide mark made on the polished metal plate.

The top-most test piece of adhesive tape is gradually unpeeled and torn against the razor blade, thus defining a contact area of the adhesive tapes measuring $12\text{ mm} \pm 0,8\text{ mm}$.

6.1.3 Step 3 (figure 3 and figure 4)

The lower test piece of adhesive tape which is still attached to the metal plate is then unpeeled, starting at the uncut end (figure 3).

Trim lengthwise the test pieces prepared in this way and measuring more than 12 mm wide lengthwise to a width of $12\text{ mm} \pm 0,8\text{ mm}$ using a razor blade. It would then be appropriate to fold back the free ends of the test pieces over a length of approximately 50 mm, adhesive sides together (figure 4).

6.2 Test procedure

The three test pieces are freely suspended, without weights, in an oven and cured in accordance with the manufacturers' instructions.

After cooling for five minutes at $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ and $50\% \pm 5\%$ of relative humidity, the test pieces are suspended vertically in an oven at $130\text{ }^{\circ}\text{C}$ with a 500 g mass at their lower ends. The test pieces remain in the oven for 30 min at this temperature.

7 Expression of results

Record if separation of the adhesive joint occurs.

A separation of the joint will have occurred if the weight has fallen or if the adhesive tape has slipped more than 2 mm.

8 Test report

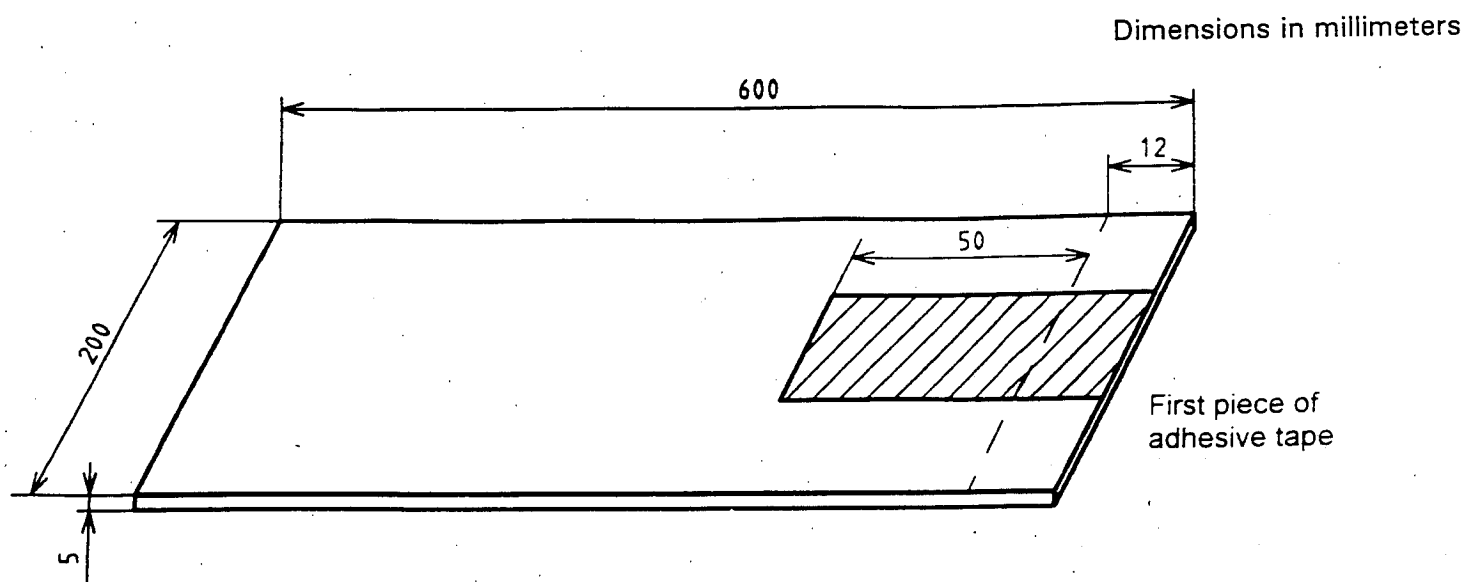
The test report shall include the following information :

- a) a reference to this European Standard ;
- b) all information necessary to identify the test sample ;
- c) curing conditions ;
- 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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Figure 1 : Step 1

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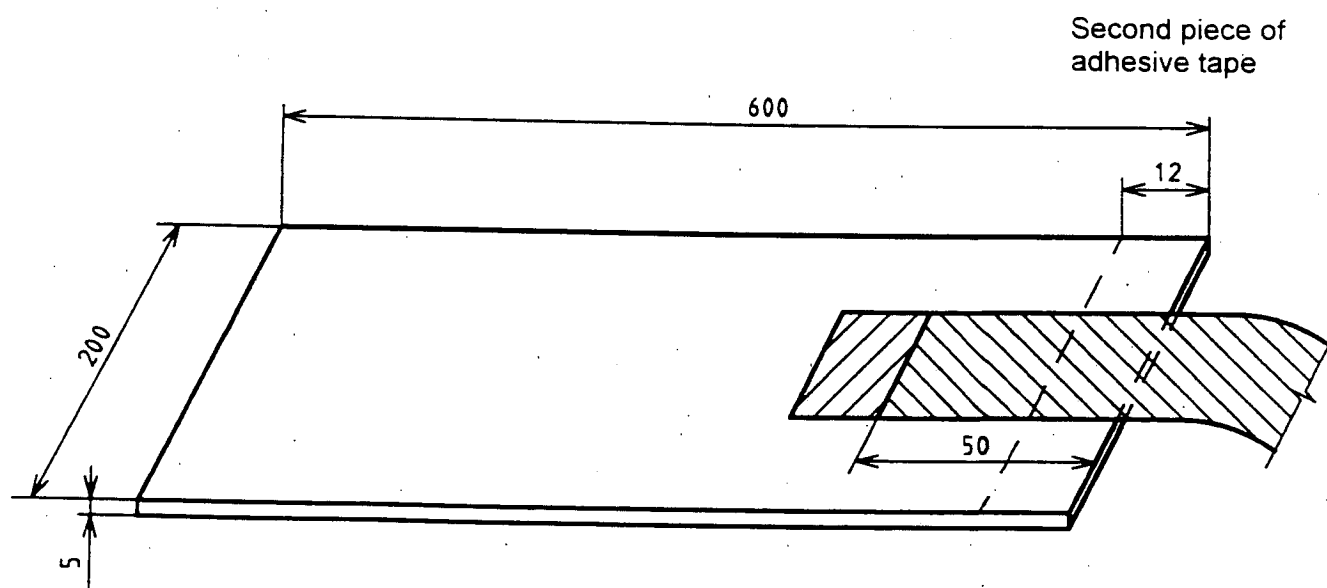


Figure 2 : Step 2.