

Adhesives for leather and footwear materials — Solvent-based and dispersion adhesives — Test methods for measuring the bond strength under specified conditions

The European Standard EN 1392:1998 has the status of a
British Standard

ICS 61.060; 83.180

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Summary of pages

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English version

Adhesives for leather and footwear materials — Solvent-based and dispersion adhesives — Test methods for measuring the bond strength under specified conditions

Adhésifs pour cuir et matériaux de la chaussure —
Adhésifs à base de solvants ou à dispersion —
Méthodes d'essai de la résistance pour mesurer la
résistance de collage dans certaines conditions
spécifiées

Klebstoffe für Leder und Schuhwerkstoffe —
Lösemittel- und Dispersionsklebstoffe —
Prüfverfahren zur Messung der Festigkeit von
Klebungen unter festgelegten Bedingungen

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CEN

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of an identical text or by endorsement, at the latest by August 1998, and conflicting national standards shall be withdrawn at the latest by August 1998.

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 standard specifies test methods to measure some strength properties of bonds of leather and footwear materials, in stuck-on assemblies using solvent-based and dispersion adhesives, under different conditions. These can be chosen taking into account the different stresses that such bonds are subjected to, depending on the type of footwear, under different external conditions in service.

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.

EN 923, *Adhesives — Terms and definitions*.

EN 1066, *Adhesives — Sampling*.

EN 1067, *Adhesives — Examination and preparation of samples for testing*.

EN 10002-2, *Metallic materials — Tensile testing — Part 2: Verification of the force measuring system of the tensile testing machine*.

EN 29142, *Adhesives — Guide to the selection of standard laboratory ageing conditions for testing bonded joints* (ISO 9142:1990).

EN ISO 10365, *Adhesives — Designation of main failure patterns* (ISO 10365:1992).

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*.

ISO 868, *Plastic and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)*.

ISO 2602, *Statistical interpretation of test results — Estimation of the mean — Confidence interval*.

3 Definitions

For the purposes of this standard, the definitions in accordance with EN 923 and the following definitions apply:

3.1

leather

tanned animal skin, usually free of hair [EN 1391]

3.2

footwear materials

natural and synthetic materials which are suitable for footwear manufacture or repair and have adequate wear properties as upper or sole material [EN 1391]

3.3

adhesives for leather and footwear materials

adhesives which are intended to produce firm and durable bonds with leather and footwear materials

4 Principle

The surface of the leather or the footwear material used shall be treated specifically to the nature of the material. Strips of specified length and width shall be cut from the treated material.

Two of these strips or one strip of the above mentioned material together with one strip of a suitable different material shall be bonded by an adhesive to test pieces of specified form.

The test pieces shall be stored under specified conditions and their bond strength determined under specified conditions.

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 safety and health practices and to ensure compliance with any European or national regulatory conditions.

6 Test methods

6.1 Types of tests

6.1.1 Peel test at $(23 \pm 2) ^\circ\text{C}$

See 6.4.2.

6.1.2 Shear test at $(23 \pm 2) ^\circ\text{C}$

See 6.4.3.

6.1.3 Peel test under constant load and at a constant elevated temperature ("creep test")

See 6.4.4.

6.2 Adhesives and materials

6.2.1 Footwear adhesive

The adhesive used shall be identified in the test report, in particular note name and/or designation, manufacturer, date of manufacture/supply and/or lot number, main polymer and colour. For two-part adhesives the nature of the crosslinking agent and the mixing ratio of the components shall be identified.

Reference footwear test adhesives are one- or two-part adhesives with specified properties (e.g. test adhesive CR 1, test adhesive CR 2, test adhesive PU 1, test adhesive PU 2). The designation of the reference test adhesive, if used, shall be recorded in the test report.