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SIST EN 1903:2009

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English Version

Adhesives - Test method for adhesives for plastic or rubber floor coverings or wall coverings - Determination of dimensional changes after accelerated ageing

Adhésifs - Méthode d'essai des adhésifs destinés aux revêtements de sol ou aux revêtements de mur en plastique ou en caoutchouc - Détermination des variations dimensionnelles après un essai de vieillissement accéléré

Klebstoffe - Prüfverfahren für Klebstoffe für Boden- und Wandbeläge aus Kunststoff oder Gummi - Bestimmung der Maßänderungen nach beschleunigter Alterung

This European Standard was approved by CEN on 5 January 2008.

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 CEN 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 CEN Management Centre has the same status as the official versions.

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Foreword

This document (EN 1903:2008) 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of an identical text or by endorsement, at the latest by August 2008, and conflicting national standards shall be withdrawn at the latest by August 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1903:1999.

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

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SAFETY STATEMENT

Persons using this document should be familiar with the normal laboratory practice, if applicable. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory conditions.

EN 1903:2008 (E)

1 Scope

This European Standard specifies a test method that measures the dimensional changes of a plastic or rubber floor or wall covering bonded to a given substrate after accelerated ageing. The term "wall covering" does not include any type of wallpaper.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 923:2005, *Adhesives – Terms and definitions*

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

EN ISO 9142:2003, *Adhesives - Guide to the selection of standard laboratory ageing conditions for testing bonded joints (ISO 9142:2003)*

EN ISO 15605, *Adhesives - Sampling (ISO 15605:2000)*

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

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3 Terms and definitions

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For the purposes of this document, the terms and definitions given EN 923:2005 and the following apply.

3.1

adhesives for plastic or rubber floor and wall coverings

adhesives intended to produce firm and durable bonds between floor or wall coverings and various substrates.

4 Principle

This test method gives a measure of the suitability of a plastic or rubber floor or wall covering/adhesive combination by monitoring dimensional changes during defined conditioning sequences when bonded to a specific substrate.

5 Apparatus and materials

5.1 Adhesive applicator, comprising a notched trowel with dimensions specified by the adhesive manufacturer.

5.2 Roller, of width (55 ± 1) mm, diameter (90 ± 1) mm and total mass $(3,50 \pm 0,01)$ kg with a handle at 90° to the axis (as an example, see Figure 1).

Dimensions in millimetres

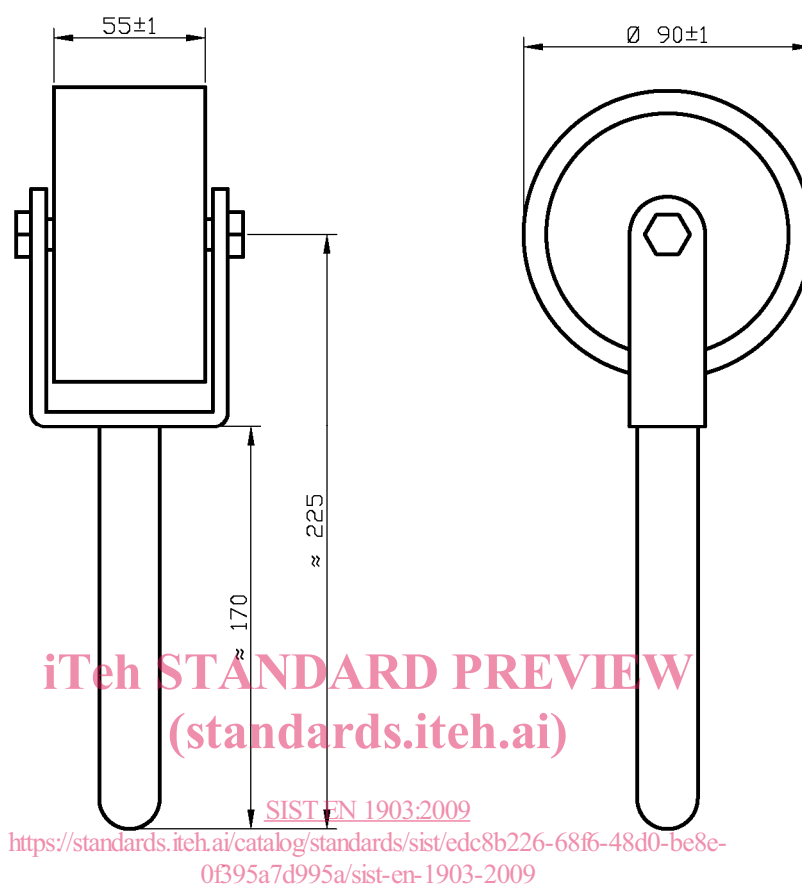


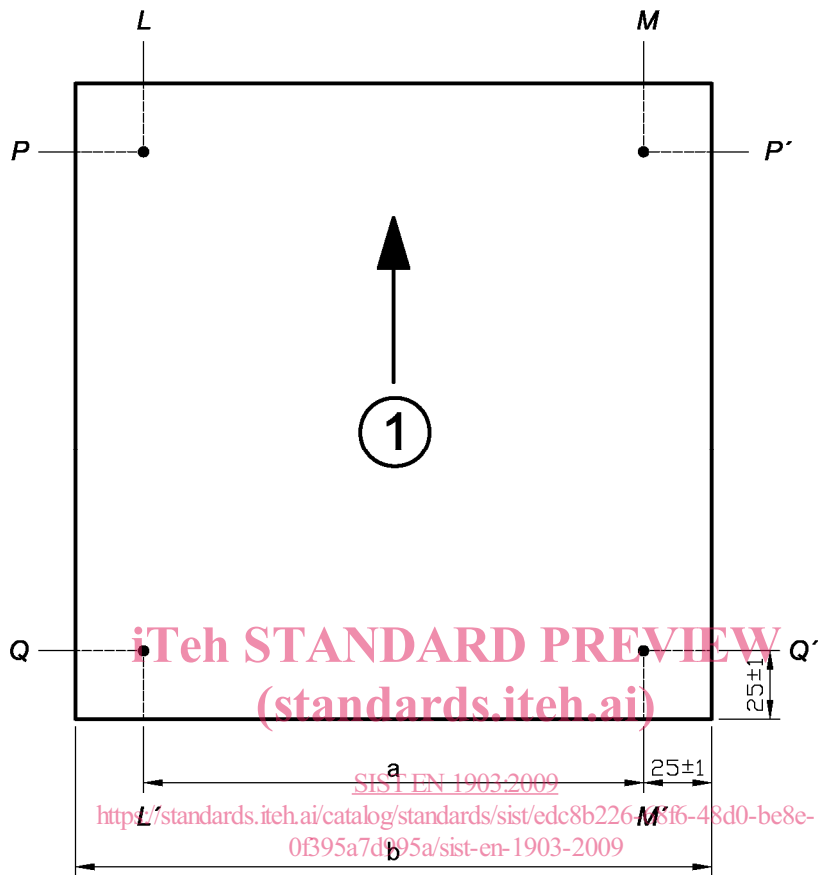
Figure 1 — Roller

5.3 Heating oven, with air circulation as in 4.2 of EN ISO 9142:2003.

5.4 Floor or wall covering for testing, three test pieces for each combination with adhesive dimensions of (250 ± 5) mm x (250 ± 5) mm or (300 ± 5) mm x (300 ± 5) mm.

5.5 Substrate, one uncoated fibre cement panel, fully compressed and autoclaved, asbestos-free, of thickness $(7,5 \pm 0,5)$ mm for each test piece. Dimensions shall not be greater than 50 mm longer than the distance between the datum points, i. e. each datum point shall not be greater than (25 ± 1) mm from the outer edge (see Figure 2).

Dimensions in millimetres

**Key**

- 1 Grain direction
- a Measurements between studs
- b Edge to edge measurements

Figure 2 — Measurements

Where edge to edge measurements are being carried out, recommended dimensions are approximately 300 mm x 300 mm.

5.6 Suitable measuring devices, capable of measuring to the nearest 0,01 mm over a length of either 200 mm or 250 mm, e. g. an elongation meter.

5.7 Adhesives, for fixing gauge studs to the covering surface if required by the measuring method.

6 Preparation of test specimens

6.1 Pretreatment of floor or wall coverings and fibre cement testing pieces

Place the test pieces (5.4) on a firm horizontal substrate (5.5) and heat for 6 h in a heating oven (5.3) at $(80 \pm 2) ^\circ\text{C}$. Ensure that the test pieces and substrate are spaced in such a way as to enable a free passage of air over them. At the end of this period, remove the test pieces and supports from the heating oven and store for 24 h in a standard atmosphere of $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 5) \%$ relative humidity prior to use.

NOTE The pre-treatment will release any stresses in the covering so that it is in a relaxed state when the actual test is commenced. The fibre cement panel is also included so that the state of dryness will be constant for each test.

If a more practical assessment is required, this pre-conditioning may not be regarded as necessary.

If knowledge of dimensional changes after this pre-treatment is required, dimensions should be measured as given in 6.4 before and after the pre-treatment.

6.2 Sampling and conditioning of adhesive

Take a sample in accordance with EN ISO 15605 of the adhesive to be tested and examine and prepare it in accordance with EN 1067.

Condition the adhesive in a standard atmosphere of $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 5) \%$ relative humidity for at least 24 h before making the test specimens, in accordance with ISO 554.

6.3 Datum points

6.3.1 Fixing of gauge positions

Using the appropriate adhesive fix the gauge studs in four positions, each being (25 ± 1) mm from the outer edge of the covering (see Figure 2).

6.3.2 Edge to edge measurements

Test specimens shall be marked at positions (25 ± 1) mm from each edge.

6.4 Initial measurements of dimensions prior to bonding

Measure the dimension of each test piece along the two datum lines LL' and MM' parallel to its grain, when this can be identified, (longitudinally) and the two datum lines PP' and QQ' at right angles to these lines (transversely). Record as **measurement A**.

Depending on the type of measuring device to be used, the measurements may be made from edge to edge or from scribe datum marks as previously described (see Figure 2).