INTERNATIONAL STANDARD

ISO 24346

First edition
2006-10-01

Resilient floor coverings — Determination of overall thickness

Revêtements de sol résilients — Détermination de l'épaisseur totale

Reference number
ISO 24346:2006(E)

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Published in Switzerland

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Foreword

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ISO 24346 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

Resilient floor coverings — Determination of overall thickness

1 Scope

This International Standard specifies a method for determining the overall thickness of resilient floor coverings.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
overall thickness
vertical distance between two parallel plates where a resilient floor covering is inserted under a specified load

3 Principle

The test piece is placed between two parallel plates, and the distance between them is measured, the contact pressure being adapted to suit the structure of the test piece.

4 Apparatus

4.1 Movable circular upper plate.

For various types of resilient floor covering structures, the diameter of the upper plate, the applied mass, the area and the pressure shall be in accordance with Table 1.

4.2 Fixed lower plate, at least equal to size of the upper plate and at least 15 cm^2.

4.3 Dial gauge, to measure the distance between the plates to an accuracy of 0,01 mm.

4.4 Weighted ring or horseshoe (500 g), to hold the perimeter of the specimen uniformly flat against the fixed lower plate.

5 Sampling and selection of specimens

5.1 Sheet material

Take two representative samples from a roll, one from each end, or from the beginning of two rolls. From each sample, cut a test piece a minimum of 100 mm across the full width of the sample (see Figure 1).

Dimensions in millimetres

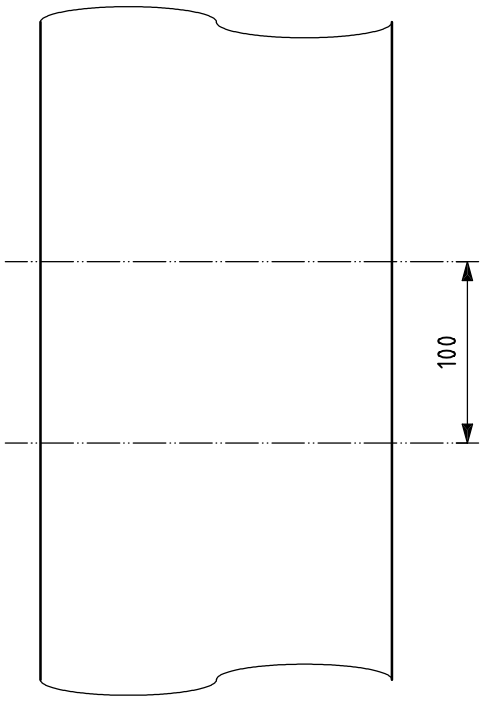


Figure 1 — Cutting sheet samples

5.2 Tile material

Select five tiles from carton as test pieces and cut them to the appropriate size of 50 mm × 100 mm. Where a pack or carton of tiles comprises the sample, ensure that the first and last tiles are not used as test pieces.

6 Atmosphere for conditioning and testing

Condition the specimens for a minimum of 24 h at (23 °C ± 2) °C and relative humidity of (50 ± 5) % and test in the same environment.

7 Test procedure

7.1 Preparation

7.1.1 Make sure the test instrument is level.

7.1.2 Select the appropriate upper plate and force applied according to Table 1 for the test specimen type to be measured. Check that the presser foot and plates are clean.

7.1.3 Set the dial gauge to zero by allowing the presser foot to rest on the lower plate (anvil).

Table 1 — Plate and force settings

Structure of test specimen	Diameter of upper plate mm	Area mm^2	Mass applied kg	Approximate corresponding pressure kPa
Solid throughout	8,00 ± 0,05	50	0,40 ± 0,02	80
At least one non-solid layer	25,3 ± 0,1	500	0,20 ± 0,02	4
Rubber and other relief materials	50,0 ± 0,2	2 000	5,0 ± 0,1	25
Composition cork	11,30 ± 0,05	100	0,80 ± 0,02	80

7.2 Calibration of apparatus

The calibration of the gauge shall be verified by means of gauge blocks or shim stock of known thickness appropriate to the thickness being measured.

7.3 Determination of thickness

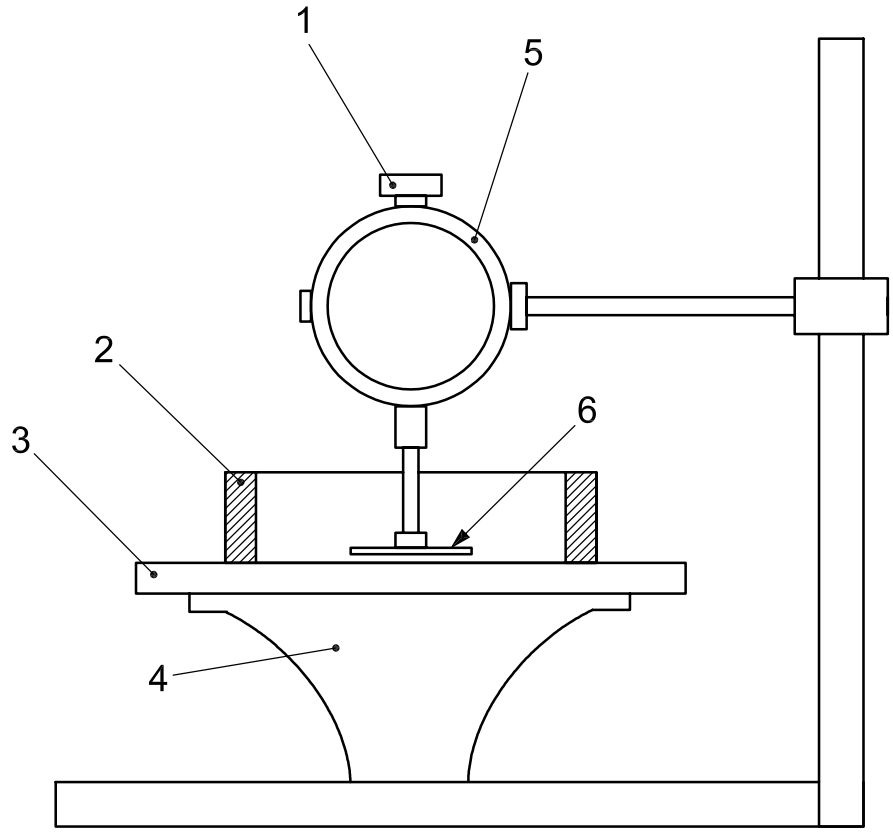
7.3.1 Place the specimen on the fixed lower plate (anvil) taking care that the specimen is flat against the anvil with the wear surface upward. Place the weighted ring or horseshoe centred to the presser foot (see Figure 2). Lower the presser foot gently until it contacts the surface of the specimen.

When measuring materials with a foam layer, select an unembossed flat area that is substantially larger, if possible, than the presser foot and at least 20 mm from any edge of the specimen. Raise the presser foot and insert the test specimen.

7.3.2 Read the thickness 5 s after application of loaded plate; read to the nearest 0,001 mm or to the measuring limits of the instrument being used. Make all measurements at least 20 mm from any edge of the specimen.

7.3.3 Unless otherwise specified, make a total of five measurements on each sample at randomly selected locations.

7.3.4 Record the measured values for each test specimen to the nearest 0,01 mm.



Key

1 mass applied
2 weighted ring or horseshoe
3 specimen
4 anvil, lower plate
5 dial gauge
6 upper plate

Figure 2 — Placement of weighted ring or horseshoe

8 Calculation and expression of results

Calculate the mean value of thickness from the number of measurements taken and express the result to 0,01 mm. If required by the specification, report the minimum and maximum measurements.

9 Precision statement

An interlaboratory test will be conducted to determine the precision of this method.

10 Test report

The test report shall include the following information:

a) a statement that the tests were performed in accordance with this International Standard (ISO 24346);

b) the complete identification of each sample, including type, source, colour and manufacturers' reference numbers;

c) the previous history of the sample;

d) the exact testing atmosphere at which the test was conducted (temperature and relative humidity);

e) any deviation from this International Standard which may have affected the results;

f) the thickness of the test specimen. This shall be the mean value for overall thickness calculated to the nearest 0,01 mm;

g) the minimum and maximum thickness, if required.

Bibliography

[1] EN 428, *Resilient floor covering — Determination of overall thickness*

[2] ASTM F 386, *Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces*

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[4] JIS A 1454, *Test Methods — Resilient Floor Coverings, Section 6.3 — Dimension and squareness of Floor Tile and Section 6.4 — Dimension of Floor Sheet*

ICS 97.150

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