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# International Standard



# 1765

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## Machine-made textile floor coverings — Determination of thickness

*Revêtements de sol textiles fabriqués à la machine — Détermination de l'épaisseur totale*

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## Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1765 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 1765-1975), clauses 5 and 8 and sub-clauses 7.2 and 9.4 of which have been technically revised.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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# Machine-made textile floor coverings — Determination of thickness

## 1 Scope and field of application

This International Standard specifies a basic method for the determination of the thickness of machine-made textile floor coverings. Where areas of different thickness or construction exist, these should be tested separately if possible.

This method forms an integral part of other methods of test for textile floor coverings and the result of this test by itself cannot be used as an indication of the quality of the product.

The method is applicable to all machine-made textile floor coverings.

## 2 References

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*.

ISO 1957, *Machine-made textile floor coverings — Sampling and cutting specimens for physical tests*.

## 3 Definition

For the purposes of this International Standard, the following definition applies :

**thickness** (of machine-made textile floor coverings) : The distance between a reference plate on which the specimen rests and a parallel presser foot applying a given pressure to the specimen. Ordinarily the thickness of a machine-made textile floor covering without compression is measured at the standard pressure of 2,0 kPa\* applied to a circle of area between 300 and 1 000 mm<sup>2</sup> within a larger area.

## 4 Principle

The thickness of a specimen of machine-made textile floor covering is measured as the distance between the reference plate on which the specimen rests and a parallel circular presser foot exerting a specified pressure on an area of defined size within a larger area of the machine-made textile floor covering. Textile floor coverings without yarn or flocked pile are tested using a guard ring.

## 5 Apparatus

**5.1 Instrument for measuring the thickness**, having a circular plane presser foot of area between 300 and 1 000 mm<sup>2</sup>. It shall be capable of exerting a pressure normal to the plane of the specimen of  $2,0 \pm 0,2$  kPa and shall have a means of measuring thickness with an accuracy of 0,1 mm over a range of 25 mm. The movement of the presser foot shall be normal to the plane of the textile floor covering. The reference plate on which the specimen rests shall be plane, at least 125 mm × 125 mm in size, and parallel to the presser foot to within 1 part in 500.

**5.2 Circular guard ring**, mass 1 000 g, external diameter not greater than 125 mm and internal diameter of  $d + 40$  mm,  $d$  being the diameter of the circular presser foot, such that a pressure of at least 1 kPa is exerted. A throat of 40 mm width may be cut from the guard ring.

**5.3 Straightedge**, for example a ruler, for brushing the surface of the specimen.

## 6 Atmosphere for conditioning and testing

The specimens shall be conditioned and the test conducted in one of the standard atmospheres for conditioning and testing of textiles specified in ISO 139.

## 7 Test specimens

### 7.1 Sampling

Select the specimens according to the directions in ISO 1957.

### 7.2 Number of specimens, dimensions and location of test

#### 7.2.1 Textile floor coverings with yarn pile or flocked pile

Prepare sufficient specimens to allow at least five tests to be made. Test specimens shall be at least 75 mm × 75 mm, but they may be of any larger dimensions as required by other

\* 1 kPa = 10<sup>3</sup> N/m<sup>2</sup>

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tests, or several measurements may be made on one larger sample, provided that the centres of the areas in contact with the circular presser foot are not less than 75 mm apart. Select these specimens well away from distorted parts of the sample.

### 7.2.2 Textile floor coverings other than those covered by 7.2.1

Prepare sufficient specimens to allow at least 10 tests to be made. Test specimens shall be at least 125 mm × 125 mm, but they may be of any larger dimensions as required by other tests, or several measurements may be made on one larger sample, provided that the centres of the areas in contact with the circular presser foot are not less than 75 mm apart. Ensure that the area tested has not been previously compressed by a guard ring, and that it is well away from distorted parts of the sample.

## 8 Preparation of test specimens

For specimens with a pile, lightly brush the use-surface, firstly against, then with, the direction of pile lean, using the straightedge (5.3).

Lay out the specimens flat, singly, and with the use-surface uppermost, in the chosen standard atmosphere for conditioning and testing textiles for a period of at least 24 h.

## 9 Procedure

**9.1** Check that the circular presser foot shaft moves freely. With the circular presser foot and base plate in contact, set the gauge to read zero or, alternatively, obtain the zero reading for the base plate.

**9.2** Place the specimen, use-surface uppermost, on the base plate so that no part of the presser foot is within 20 mm of the edge of the specimen and so that the specimen cannot move.

When testing textile floor coverings without yarn or flocked pile, use a guard ring as specified in 5.2. When a textile floor covering of more than one thickness level or pile construction is being tested, no part of the circular presser foot shall be within 20 mm of a change of construction.

**9.3** Lower the circular presser foot gently on to the specimen and note the gauge reading after 30 s.

**9.4** Test in this way at least five specimens of textile floor coverings with yarn or flocked pile, and at least ten specimens of other types of textile floor coverings.

## 10 Expression of results

Measure and record, for each specimen, the thickness to the nearest 0,1 mm, at a pressure of 2,0 kPa, and calculate the arithmetic mean value of these measurements to the nearest 0,1 mm. When a textile floor covering of more than one thickness level or pile construction has been tested, calculate the result for each level separately.

## 11 Test report

The test report shall include the following particulars :

- a) a statement that the test was conducted in accordance with this International Standard, and which of the alternative requirements have been met, such as the number of specimens tested, use or not of the guard ring;
- b) the standard atmosphere used (temperate or tropical);
- c) the individual thickness measurements and the mean thickness of the test specimens to the nearest 0,1 mm, at a pressure of 2,0 kPa. When a textile floor covering of more than one thickness level or pile construction has been tested, report the results for each level separately.