

# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 2286-3

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## Rubber- or plastics-coated fabrics — Determination of roll characteristics —

### Part 3: Method for determination of thickness

*Supports textiles revêtus de caoutchouc ou de plastique — Détermination des caractéristiques des rouleaux —  
Partie 3: Méthode de détermination de l'épaisseur*

ICS: 59.080.40

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#### ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 2286-3 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses)*.

This second edition cancels and replaces the first edition ISO 2286-2:1998, which has been technically revised.

ISO 2286 consists of the following parts, under the general title *Rubber – or plastics – coated fabrics — Determination of roll characteristics*:

- *Part 1: Methods for determination of length, width and net mass*
- *Part 2: Methods for determination of total mass per unit area, per unit area of coating and mass per unit area of substrate*
- *Part 3: Methods for determination of thickness*

## Introduction

Compared with metals, coated fabrics are easily compressed, and the measured thickness will depend considerably upon the method and pressure employed. This is perhaps the single most important reason for having a standard method for measuring the thickness of coated fabrics.

An effort has been made to enable the results to be comparable with measurements of the thickness of textile substrates.

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# Rubber- or plastics-coated fabrics — Determination of roll characteristics —

## Part 3: Method for determination of thickness

**WARNING** — Persons using this International Standard should be familiar with normal laboratory practice. This standard 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 national regulatory conditions.

### 1 Scope

This part of ISO 2286 specifies a method for the determination, at a specified pressure, of the thickness of rubber- and plastics-coated fabrics, irrespective of the type of substrate employed. It is applicable to single-face, double-face and double-texture coated fabrics, as well as materials in which an expanded layer is included in the coating.

### 2 Normative reference

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

ISO 2231, *Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and testing*.

### 3 Terms and definitions

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

#### 3.1 thickness

The distance between the face and the back of a coated fabric, measured as the vertical distance between a reference plate on which the fabric rests and a parallel presser foot that is applying a pressure to the fabric

#### 3.2 usable width

That width of a coated fabric, excluding the selvedge, which is consistent in its properties, uniformly finished and free from unacceptable flaws

### 4 Apparatus

**4.1 Dial gauge**, of the deadweight type, designed to register the vertical distance between the bearing surfaces of a presser foot and reference plate, and equipped with a dial graduated to give a direct readout of the thickness to the nearest 0,01 mm. The gauge shall be calibrated in such a way as to permit at least one of the pressures specified in 4.2 to be obtained using at least one of the presser foot sizes.

**4.2 Circular pressure foot**, with a smooth, flat surface and a diameter of not less than 9 mm, capable of applying one or more of the following pressures:

- a) 2 kPa ± 0,2 kPa;

- b) 5 kPa  $\pm$  0,5 kPa;
- c) 10 kPa  $\pm$  1,0 kPa;
- d) 24 kPa  $\pm$  2,4 kPa.

NOTE 1 In case of the pressure foot of 10 mm diameter, the force is calculated from the pressure for each.

- a) 0,157 N  $\pm$  0,016 N
- b) 0,393 N  $\pm$  0,039 N
- c) 0,785 N  $\pm$  0,079 N
- d) 1,88 N  $\pm$  0,19 N

NOTE 2 The actual pressure exerted by the presser foot may be calculated in one of the following ways:

- a) by determining
  - 1) the force exerted by the presser foot assembly, using a calibrated counterbalance and
  - 2) the surface area of the presser foot by direct measurement
- or
- b) by using a tension dial gauge.

**4.3 Reference plate (anvil)**, having a plane upper surface of diameter not less than, preferably 50mm greater than that of the presser foot (4.2).

**4.4 Means for moving the pressure foot**, in a direction normal to the upper surface of the reference plate so that its bearing surface is maintained parallel to the upper surface of the reference plate.

NOTE The parallelism of the presser foot and anvil surfaces when brought together can conveniently be checked by inserting a feeler gauge (one only, not several together) at points round the edge of the presser foot while it is resting freely on the anvil.

## 5 Conditioning

Condition the fabric to be tested in accordance with the method of conditioning "1" in ISO 2231.

## 6 Procedure

### 6.1 General

Record the atmospheric temperature and the humidity at the time of the measurement.

### 6.2 Measurement

Before each determination, clean the surfaces of the presser foot and anvil and adjust the dial gauge to register zero when the anvil and presser foot are in contact. Make at least five thickness measurements, evenly spaced across the usable width of the fabric excluding 50mm from the edge of the fabric, as follows:

Place the fabric on the anvil, ensuring that the fabric is smooth, without any accidental creases or wrinkles and without any tension. If there are intentional creases in the fabric, no attempt shall be made to smooth them out before making measurements. Lower the presser foot gently on to the fabric and



allow it to rest on the fabric until the gauge reading is stable. If it takes more than 30 s, record the period of time to get stable in the report. Record the dial gauge reading to the nearest 0.01 mm.

If the fabric has an embossed surface, do not avoid the areas of embossing.

Do not make any measurements within 1 m of a production-manufactured roll end.

## 7 Expression of results

Calculate the arithmetic mean, in millimetres, of the ten determinations. Take this mean as the thickness of the coated fabric.

## 8 Test report

The test report shall include the following information:

- a) a reference to this part of ISO 2286;
- b) the atmospheric temperature and humidity at the time of the measurement;
- c) a complete description of the coated fabric;
- d) the mean, minimum and maximum thicknesses, in millimetres, of the coated fabric, the pressure at which the measurements were made, the diameter of the presser foot used and the length of time the presser foot was allowed to rest on the fabric;
- e) the period of time when the test piece is pressed for more than 30 s;
- f) details of any deviations from the procedure specified; and
- g) the date of the determination.