
**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



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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 2286-3 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

Together with the other parts (see below), it cancels and replaces ISO 2286:1986, which has been technically revised.

ISO 2286 consists of the following parts, under the general title *Rubber- and 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, mass per unit area of coating and mass per unit area of substrate*
- *Part 3: Method for determination of thickness*

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International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

Printed in Switzerland

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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Part 3: Method for determination of thickness

WARNING – Persons using this part of ISO 2286 should be familiar with normal laboratory practice. This part of ISO 2286 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 describes 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 standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 2286. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 2286 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2231:1989, *Rubber- or plastics-coated fabrics – Standard atmospheres for conditioning and testing*.

3 Definitions

For the purposes of this part of ISO 2286, the following 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.

NOTE – For convenience, the reference plate on which the fabric rests is referred to as the anvil.

3.2 usable width: That width of a coated fabric, excluding the selvage, 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 0,02 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 presser 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 $\pm$ 0,2 kPa;
- b) 10 kPa $\pm$ 1,0 kPa;
- c) 24 kPa $\pm$ 2,4 kPa.

NOTES

1 2 kPa is the recommended pressure.

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 at least 50 mm greater than that of the presser foot.

4.4 Means for moving the presser 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 ISO 2231.

6 Procedure

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 ten thickness measurements, evenly spaced across the usable width 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 for 10 s. (For highly compressible materials, a 30 s time interval may be needed. This shall be reported in the test report.) Record the dial gauge reading to the nearest 0,02 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.