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Gummi- eller plastbelagte tekstiler – Bestemmelse af vedhæftningsevne

Rubber- or plastics-coated fabrics – Determination
of coating adhesion (ISO 2411:2017)

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EUROPÄISCHE NORM

October 2017

ICS 59.080.40

Supersedes EN ISO 2411:2000

English Version

Rubber- or plastics-coated fabrics - Determination of coating adhesion (ISO 2411:2017)

Supports textiles revêtus de caoutchouc ou de plastique - Détermination de l'adhérence du revêtement (ISO 2411:2017)

Mit Kautschuk oder Kunststoff beschichtete Textilien - Bestimmung der Haftfestigkeit von Beschichtungen (ISO 2411:2017)

This European Standard was approved by CEN on 28 August 2017.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN ISO 2411:2017) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products" in collaboration with Technical Committee CEN/TC 248 "Textiles and textile products" the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

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

This document supersedes EN ISO 2411:2000.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 2411:2017 has been approved by CEN as EN ISO 2411:2017 without any modification.

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Fourth edition
2017-09-01

Rubber- or plastics-coated fabrics — Determination of coating adhesion

*Supports textiles revêtus de caoutchouc ou de plastique —
Détermination de l'adhérence du revêtement*



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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).

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).

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 voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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

This fourth edition cancels and replaces the third edition ([ISO 2411:2000](http://www.iso.org/iso/2411:2000)), which has been technically revised.

The changes compared to the previous edition are as follows:

- a warning statement has been added before the scope;
- in [Clause 2](#), the publication year of [ISO 2231](#) has been added;
- in [3.1](#), the definition of delamination has been modified;
- a new [Clause 4](#), specifying the atmosphere for conditioning and testing, has been added;
- in [Clause 6](#), the dimension of test specimen has been revised according to the addition of the test specimen of 20 mm width in [6.2](#) and [6.3.4](#);
- in both [6.3.1](#) and [6.3.3](#), a welding process has been added;
- in [6.2.3](#) and [6.3.1](#), notes have been changed to body text;
- in [Clause 7](#), Grade B and precision 1 have been changed to class B and class 1, respectively, according to the updated references;
- in [9.2](#), N/10 mm and N/20 mm have been added;
- in [Clause 10](#), items a), f), and l) have been added;
- in [Figure 3](#), x-axis and y-axis names have been added;
- in [Figure 4](#), figure subtitles have been added.

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Introduction

Knowledge of the strength of adhesion between the coating and the adjacent layer is important as an inadequate adhesion strength can often result in failure of the product due to delamination.

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Rubber- or plastics-coated fabrics — Determination of coating adhesion

WARNING — Persons using this document should be familiar with normal laboratory practice. 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 national regulatory conditions.

1 Scope

This document specifies a method of determining the coating adhesion strength of coated fabrics.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

[ISO 2231:1989](#), *Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and testing*

[ISO 2286-1](#), *Rubber- or plastics-coated fabrics — Determination of roll characteristics — Part 1: Methods for determination of length, width and net mass*

[ISO 5893](#), *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification*

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 delamination

partial or whole separation of two, or more, of the component layers of a coated fabric

Note 1 to entry: This can be either a fabric to polymer separation or separation within the actual polymeric layer.

3.2 coating to fabric peel

separation with no coating polymer residue remaining on the substrate

3.3 partial film tear

delamination (3.1) leaving patches of coating polymer still adhering to the *substrate* (3.8)