

Coil coated metals - Test methods - Part 11: Resistance to solvents (rubbing test)

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13523-11:2019 sisaldab Euroopa standardi EN 13523-11:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 13523-11:2019 consists of the English text of the European standard EN 13523-11:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.09.2019.	Date of Availability of the European standard is 18.09.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 25.220.60

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 13523-11

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2019

ICS 25.220.60

Supersedes EN 13523-11:2011

English Version

Coil coated metals - Test methods - Part 11: Resistance to solvents (rubbing test)

Tôles prélaquées - Méthodes d'essai - Partie 11 :
Résistance aux solvants (essai de frottement)

Bandbeschichtete Metalle - Prüfverfahren - Teil 11:
Beständigkeit gegen Lösemittel (Reibtest)

This European Standard was approved by CEN on 1 July 2019.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents		Page
European foreword		3
1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	Principle	5
5	Material	5
6	Apparatus	6
7	Sampling	6
8	Test panels	6
9	Test conditions	6
10	Procedure	7
11	Expression of results	7
12	Precision	7
13	Test report	7
Bibliography		8

European foreword

This document (EN 13523-11:2019) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

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 March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

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 13523-11:2011.

The main changes compared to EN 13523-11:2011 are:

- a) the absorbent material is described in more detail: e.g. synthetic material shall not be used;
- b) other solvents such as acetone and methyl isobutyl ketone are also allowed;
- c) the description of the test panel is given in more details;
- d) it is stated that the solvent used shall be also at room temperature before use;
- e) it is amended that visual inspection of the rubbed area shall be carried out during the test and immediately after the rubbing operation;
- f) “strokes” are changed to “rubs”;
- g) a figure of the test apparatus is added;
- h) items c), f) and i) have been added to the test report (Clause 13);
- i) the text has been editorially revised and the normative references have been updated.

The EN 13523 series, *Coil coated metals — Test methods*, consists of the following parts:

- *Part 0: General introduction*
- *Part 1: Film thickness*
- *Part 2: Gloss*
- *Part 3: Colour difference — Instrumental comparison*
- *Part 4: Pencil hardness*
- *Part 5: Resistance to rapid deformation (impact test)*
- *Part 6: Adhesion after indentation (cupping test)*
- *Part 7: Resistance to cracking on bending (T-bend test)*

- *Part 8: Resistance to salt spray (fog)*
- *Part 9: Resistance to water immersion*
- *Part 10: Resistance to fluorescent UV radiation and water condensation*
- *Part 11: Resistance to solvents (rubbing test)*
- *Part 12: Resistance to scratching*
- *Part 13: Resistance to accelerated ageing by the use of heat*
- *Part 14: Chalking (Helmen method)*
- *Part 15: Metamerism*
- *Part 16: Resistance to abrasion*
- *Part 17: Adhesion of strippable films*
- *Part 18: Resistance to staining*
- *Part 19: Panel design and method of atmospheric exposure testing*
- *Part 20: Foam adhesion*
- *Part 21: Evaluation of outdoor exposed panels*
- *Part 22: Colour difference — Visual comparison*
- *Part 23: Resistance to humid atmospheres containing sulfur dioxide*
- *Part 24: Resistance to blocking and pressure marking*
- *Part 25: Resistance to humidity*
- *Part 26: Resistance to condensation of water*
- *Part 27: Resistance to humid poultice (Cataplasm test)*
- *Part 29: Resistance to environmental soiling (Dirt pick-up and striping)*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This part of the EN 13523 series specifies the procedure for evaluating the degree of curing by assessing the resistance of a cured organic coating film, applied on a metallic substrate, to a specified organic solvent.

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.

EN 13523-0:2014, *Coil coated metals — Test methods — Part 0: General introduction*

EN 23270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing (ISO 3270)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13523-0 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>

4 Principle

The surface of the organic coating is rubbed with an absorbent material soaked in a specified organic solvent at a specified load. The rubbing is carried out in parallel with the rolling direction. The rubs are counted as a double rub, i.e. one rub forward and one rub backward constitute a double rub.

5 Material

5.1 Absorbent material

Cotton wool of sufficient quantity to stay wet for the duration of the test and to prevent contact between the test panel and the artificial finger used under the conditions of the test.

Other materials such as textile or felt pads may be used but will give different results. If another material than cotton wool is used, this shall be stated in the test report. Synthetic materials shall not be used.

Materials with a hard surface shall not be used.

5.2 Solvent

Butanone (methyl ethyl ketone, MEK, CAS-No 78-93-3) shall be used if not otherwise specified.

Other similar organic solvents might be used upon agreement, such as Acetone (CAS-No 67-64-1), Methyl-Isobutyl-Ketone (MiBK, CAS-No 108-10-1).

The solvent used shall be stated in the test report.