



SLOVENSKI STANDARD

SIST EN 13523-11:2011

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Nadomešča:

SIST EN 13523-11:2005

Kovine, prevlečene v svitkih - Preskusne metode - 11. del: Odpornost proti topilom (preskus z brisanjem)

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

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

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Tôles prélaquées - Méthodes d'essai - Partie 11: Résistance aux solvants (rub test)

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Ta slovenski standard je istoveten z: EN 13523-11:2011

ICS:

25.220.60

Organske prevleke

Organic coatings

SIST EN 13523-11:2011

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13523-11

June 2011

ICS 25.220.60

Supersedes EN 13523-11:2004

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 4 May 2011.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 13523-11:2011) 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 December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

This document supersedes EN 13523-11:2004.

The main technical changes are:

A note to 6.1 has been introduced giving an example for the weight load on the artificial finger.

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

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

- *Part 0: General introduction and list of test methods*
- *Part 1: Film thickness*
- *Part 2: Specular 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*

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- *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: Colour stability in 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 (Cataplasma test)*
- *Part 29: Resistance to environmental soiling (Dirt pick-up and striping)*

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

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1 Scope

This part of EN 13523 specifies the procedure for evaluating the degree of curing by determining the resistance of an organic coating on a metallic substrate to solvents.

2 Normative references

The following referenced documents are indispensable for the application 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 13523-0:2001, *Coil coated metals — Test methods — Part 0: General introduction and list of test methods*

EN 23270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing (ISO 3270:1984)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13523-0:2001 apply.

4 Principle

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The surface of the organic coating is rubbed with an absorbent material soaked in a specified solvent at a specified load.

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5 Reagents and 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.

Materials with a hard surface shall not be used.

5.2 Solvent

Butanone (methyl ethyl ketone) shall be used if not otherwise specified.

6 Apparatus

6.1 A device with an artificial finger with a circular contact area between 100 mm² and 200 mm² of contact surface, capable of making longitudinal back and forth strokes (double strokes) under a pressure of (0,05 ± 0,01) MPa. The length of the strokes shall be at least 75 mm.

NOTE For example, for a pressure of 0,05 MPa and a contact area of 100 mm², a mass of 0,5 kg is required.

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7 Sampling

Shall be in accordance with EN 13523-0.

8 Test panels

Shall be in accordance with EN 13523-0.

The test panel shall be of sufficient size that the area wetted during the test is at least 20 mm from the edges.

9 Procedure

9.1 Test conditions

Coatings shall not be tested until they have cooled down to ambient temperature. For more accurate measurements, as required for instance in case of dispute, the temperature shall be $(23 \pm 2) ^\circ\text{C}$ and the relative humidity $(50 \pm 5) \%$, in accordance with EN 23270.

9.2 Determination

Cover the whole surface area of the artificial finger (6.1) with absorbent material (5.1). Soak the absorbent material with the solvent (5.2). Place the tip of the artificial finger on the test panel avoiding contact with the edges. Start the movement for the specified number of strokes. The rubbing speed shall be approximately 1 s per double stroke and the movement shall be continuous.

The absorbent material shall remain wet for the duration of the test.

After the specified number of strokes, the test panel shall be evaluated to verify whether or not the organic coating under test has been removed and the material underneath can be seen. Avoid any abrasive contamination that will score the panel surface and invalidate the result of the test.

The evaluation area is obtained by disregarding the characteristic length of the contact area on both extremes of the tested surface.

NOTE The judgement of the test result can depend upon the experience of the operator.

10 Expression of results

The result shall be expressed as a pass or fail at the specified number of strokes.

11 Precision

No precision data are available.

12 Test report

The test report shall contain at least the following information:

- a) all details necessary to identify the product tested, including substrate;
- b) a reference to this part of EN 13523 (EN 13523-11);
- c) the number of double strokes;
- d) the solvent used;
- e) the result of the test, as indicated in Clause 9;
- f) any deviation from the test method specified;
- g) the date of the test.

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