SLOVENSKI STANDARD
SIST EN 13523-5:2014

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Nadomešča:
SIST EN 13523-5:2002

Prevlečene kovine, ki se navijajo - Preskusne metode - 5. del: Odpornost proti hitri deformaciji (preskus z udarcem)

Coil coated metals - Test methods - Part 5: Resistance to rapid deformation (impact test)

Bandbeschichtete Metalle - Prüfverfahren - Teil 5: Widerstandsfähigkeit gegen schnelle Verformung (Schlagprüfung)

Tôles prélaquées - Méthodes d'essai - Partie 5 : Résistance à la déformation rapide (essai de choc)

Ta slovenski standard je istoveten z: **EN 13523-5:2014**

ICS:

17.040.20	Lastnosti površin	Properties of surfaces
25.220.60	Organske prevleke	Organic coatings

SIST EN 13523-5:2014 **en,fr,de**

EUROPEAN STANDARD

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EN 13523-5

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ICS 25.220.60

Supersedes EN 13523-5:2001

English Version

Coil coated metals - Test methods - Part 5: Resistance to rapid deformation (impact test)

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

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Foreword

This document (EN 13523-5:2014) 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of an identical text or by endorsement, at the latest by December 2014, and conflicting national standards shall be withdrawn at the latest by December 2014.

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.

This document supersedes EN 13523-5:2001.

The main technical changes are:

a) the limitation in the scope to coatings having a thickness of 60 µm maximum was deleted;

b) a remark on preconditioning was added;

c) details on the brands of the tape used were added;

d) in addition to use a × 10 magnifying glass, the evaluation shall be carried out with normal corrected vision.

EN 13523, *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 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This part of EN 13523 specifies the procedure for determining the resistance to cracking and/or pick-off on rapid deformation of an organic coating on a metallic substrate in terms of energy which the specimen will withstand.

2 Normative references

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.

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)*

EN 60454-2, *Pressure-sensitive adhesive tapes for electrical purposes — Part 2: Methods of test (IEC 60454-2)*

EN ISO 6272-1, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 1: Falling-weight test, large-area indenter (ISO 6272-1)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13523-0:2014 apply.

4 Principle

The test specimen is deformed (indentation in the form of a dome), using a falling weight. Usually, the deformation is carried out from the reverse side but can occasionally be carried out directly on the coated surface under test.

The resistance of the coating to cracking and/or pick off is then determined.

5 Apparatus and materials

5.1 Apparatus in accordance with EN ISO 6272-1, equipped with a hemispherical striker, of diameter 20 mm and having two scales, one of which corresponding to a mass of 1 000 g, the other to a mass of 2 000 g.

5.2 Magnifying glass × 10.

5.3 Transparent pressure-sensitive adhesive tape, 25 mm wide, with an adhesion strength of (10 ± 1) N per 25 mm width when tested in accordance with EN 60454-2.

6 Sampling

See EN 13523-0.

7 Test panels

See EN 13523-0.

8 Procedure

Measure the resistance to rapid deformation at ambient temperature. For more accurate measurements, as required for instance in case of dispute, the temperature shall be (23 ± 2) °C and the relative humidity (50 ± 5) % in accordance with EN 23270. Conditioning is carried out in accordance with EN 13523-0:2014, Clause 6.

Place the test panel in the apparatus (5.1) with the coated surface to be tested facing downward (reverse impact test). The test may occasionally be carried out for forward impact.

Drop the mass from the required height to provide the appropriate energy of impact. Assess the resistance to cracking with normal corrected vision and the × 10 magnifying glass (5.2).

If resistance to pick-off is to be evaluated, remove two complete laps from a reel of the adhesive tape (5.3) and discard. Remove an additional length at a steady rate and cut a piece, approximately 75 mm long.

Place the centre of the tape over the deformation and smooth the tape into place over a distance of at least 20 mm either side with a finger.

To ensure good contact with the coating, rub the tape firmly with a fingertip. The colour of the coating seen through the tape is a useful indication of overall contact.

Within 5 min of applying the tape, remove the tape by holding the free end and pulling it off steadily in 0,5 s to 1 s at an angle that is as close as possible to 60° to the panel.

Resistance to pick-off is evaluated after removal of tape: no loss of adhesion is allowed.

Retain the tape for reference purposes, for example by attaching it to a sheet of transparent film.

9 Expression of results

Record the resistance to no cracking and/or no loss of adhesion in Joules.

State whether resistance to cracking and/or loss of adhesion has been measured.

10 Precision

No precision data are currently available.

11 Test report

The test report shall contain at least the following information:

a) all details necessary to identify the product tested;

b) a reference to this part of EN 13523 (EN 13523-5);

c) the results of the test, as indicated in Clause 9;

d) any deviation from the test method specified;

e) any unusual features (anomalies) observed during the test;

f) the date of the test.