



SLOVENSKI STANDARD
oSIST prEN 13523-2:2020
01-september-2020

Prevlečene kovine, ki se navijajo - Preskusne metode - 2. del: Sijaj

Coil coated metals - Test methods - Part 2: Gloss

Bandbeschichtete Metalle - Prüfverfahren - Teil 2: Glanz

Tôles prélaquées - Méthodes d'essai - Partie 2 : Brillant

Ta slovenski standard je istoveten z: prEN 13523-2

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ICS:

17.040.20	Lastnosti površin	Properties of surfaces
25.220.60	Organske prevleke	Organic coatings

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 13523-2

August 2020

ICS 25.220.60

Will supersede EN 13523-2:2014

English Version

Coil coated metals - Test methods - Part 2: Gloss

Tôles prélaquées - Méthodes d'essai - Partie 2 : Brillant

Bandbeschichtete Metalle - Prüfverfahren - Teil 2:
Glanz

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 139.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 13523-2:2020) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13523-2:2014.

The main changes are:

- a) the definition has been aligned with those in EN ISO 4618;
- b) the list of the existing parts of EN 13523 has been updated;
- c) 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*

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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: 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)*

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1 Scope

This document specifies the procedure for determining the gloss of an organic coating on a metallic substrate. Gloss is a characteristic of fundamental importance to the appearance of the coil coated product.

The apparatus requires a flat specimen of size greater than the aperture, thus, uneven surfaces cannot be measured.

This method is applicable to all pigmented and unpigmented coatings including metallic/pearlescent coatings. However, for textured coatings it is only indicative.

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:—, *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 ISO 2813, *Paints and varnishes — Determination of specular gloss of non-metallic paint films at 20°, 60° and 85° (ISO 2813)*

3 Terms and definitions (standards.iteh.ai)

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:

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

3.1

gloss

optical property of a surface, characterized by its ability to reflect light specularly

Note 1 to entry: Examples of degrees of gloss are high gloss, gloss, silk gloss, semigloss, satin, matt and dead matt.

[SOURCE: EN ISO 4618:2014, 2.132]

4 Principle

The gloss of the organic coating is determined by measuring the specular reflectance. The angle of incident light is usually 60°, but angles of 20° or 85° may be used for more accurate measurement of high or low gloss values.

5 Apparatus

Ordinary laboratory apparatus, together with the following:

- 5.1 60° glossmeter or multi-angle glossmeter, in accordance with EN ISO 2813.

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5.2 Calibration standards, as recommended by the manufacturer of the glossmeter, in accordance with EN ISO 2813.

6 Sampling

Sampling shall be in accordance with EN 13523-0.

7 Test panels

Preparation and conditioning of test panels shall be in accordance with EN 13523-0.

8 Procedure

8.1 Selection of the measuring geometry

Specify the optimum reflector geometry based on a measurement of the sample with the 60° geometry:

- The 60° geometry is applicable to all paint films, but for very high gloss and near-matt films 20° or 85° might be more suitable.
- The 20° geometry is intended to give improved differentiation between high-gloss paint films, i.e. films with a 60° gloss higher than about 70 GU (gloss units).
- The 85° geometry is intended to give improved differentiation between low-gloss paint films, i.e. films with a 60° gloss lower than about 10 GU (gloss units).

8.2 Calibration

Adjust the instrument with a high-gloss reference standard to the assigned gloss value, as specified in EN ISO 2813.

8.3 Measurement

Measure the gloss 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:—, Clause 6.

The gloss may be measured in the rolling direction or perpendicular to the rolling direction. The direction of measurement shall be stated in the test report.

Place the instrument's aperture over the coated specimen and note the gloss reading. Take readings at not less than three different parts of the coated specimen at the specified geometry (60°, 20° or 85°). Report the gloss as the average of these readings and report the geometry used if it is not 60°.

9 Expression of results

Express the result of the measurements in gloss units (GU), as the average of the readings taken.

10 Precision

For precision data see EN ISO 2813.

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 13523-2);
- c) the geometry used if it is not 60°;
- d) whether the measurement has been taken in the rolling direction or perpendicular to the rolling direction;
- e) the results of the test, as indicated in Clause 9;
- f) any deviation from the test method specified;
- g) any unusual features (anomalies) observed during the test;
- h) the date of the test.

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- [2] EN 10169:2010+A1:2012, *Continuously organic coated (coil coated) steel flat products — Technical delivery conditions*
- [3] EN ISO 4618:2014, *Paints and varnishes — Terms and definitions (ISO 4618:2014)*

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