SLOVENSKI STANDARD
SIST EN 13523-2:2021

01-december-2021

Nadomešča:
SIST EN 13523-2:2014

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: EN 13523-2:2021

ICS:

17.040.20	Lastnosti površin	Properties of surfaces
25.220.60	Organske prevleke	Organic coatings

SIST EN 13523-2:2021 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13523-2

October 2021

ICS 25.220.60

Supersedes 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 European Standard was approved by CEN on 16 August 2021.

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

This document (EN 13523-2:2021) 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 April 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.

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 13523-2:2014.

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 and metamerism — 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 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)*

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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.

Introduction

In EN 1396 and EN 10169, tolerances against nominal gloss are given for different gloss ranges of the coil coated product.

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 13523-0:2021, *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 gloss value at 20°, 60° and 85° (ISO 2813)*

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:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://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, silkgloss, 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.

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° geometry might be more suitable.

— The 20° geometry is intended to give improved differentiation between high-gloss paint films, i.e. films measured with a 60° geometry and higher than about 70 GU (gloss units).

— The 85° geometry is intended to give improved differentiation between low-gloss paint films, i.e. films measured with a 60° geometry and 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 13523-0:2021, 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 document, i.e. 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.