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Coil coated metals - Test methods - Part 15: Metamerism

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/15

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EN 13523-15

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Supersedes EN 13523-15:2002

English Version

Coil coated metals - Test methods - Part 15: Metamerism

Tôles prélaquées - Méthodes d'essai - Partie 15: Métamérisme

Bandbeschichtete Metalle - Prüfverfahren - Teil 15: Metamerie

This European Standard was approved by CEN on 27 May 2015.

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

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European foreword

This document (EN 13523-15:2015) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

This document supersedes EN 13523-15:2002.

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of an identical text or by endorsement, at the latest by January 2016, and conflicting national standards shall be withdrawn at the latest by January 2016.

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.

The main technical changes are:

a) the specification concerning the test illuminant of the spectrophotometer was amended;

b) the formulas in Clause 9 were aligned with the current standards for colorimetry (EN ISO 11664-4) and metamerism index (DIN 6172);

c) a reference to EN 13523-0 concerning conditioning of the test panels was added.

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)*

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1 Scope

This part of EN 13523 defines terms of the procedure for determining the metamerism of a colour match of an organic coating on a metallic substrate.

When two colour specimens have identical spectral reflection curves, they are matching under any illuminant irrespective of its spectral characteristics. This is termed a “spectral match”. It is also possible for two colour specimens having different spectral reflection curves to match visually under a given light source but not to match under another light source with different spectral characteristics; such matches are termed “metameric”.

One quantitative description of metamerism is the so-called “metamerism index”.

The information of the metamerism index is of limited value where ΔE (instrumental colour difference for a given illuminant, see EN 13523-3) is > 0,5. The metamerism index is not suited for determining the absolute colour difference or colour constancy of a given specimen at change of illuminant.

The colour difference under the reference illuminant is to be measured in colour coordinates L^*, a^* and b^* (see EN 13523-3).

Excluded from this method are organic coatings producing fluorescence and/or which are multicoloured, pearlescent or metallic.

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 13523-3, *Coil coated metals - Test methods - Part 3: Colour difference - Instrumental comparison*

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