BS EN 13523-22:2017

BSI Standards Publication

Coil coated metals — Test methods

Part 22: Colour difference — Visual comparison

National foreword

This British Standard is the UK implementation of EN 13523-22:2017. It supersedes BS EN 13523-22:2010 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee STI/21, Paint systems and surface preparation for metallic substrates.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2017

ISBN 978 0 580 91553 6

ICS 25.220.60

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2017.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13523-22

February 2017

ICS 25.220.60

Supersedes EN 13523-22:2010

English Version

Coil coated metals - Test methods - Part 22: Colour difference - Visual comparison

Tôles prélaquées - Méthodes d'essai - Partie 22: Différence de couleur - Comparaison visuelle

Bandbeschichtete Metalle - Prüfverfahren - Teil 22: Farbabstand - Visueller Vergleich

This European Standard was approved by CEN on 9 January 2017.

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Ref. No. EN 13523-22:2017 E

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European foreword

This document (EN 13523-22:2017) 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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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 13523-22:2010.

The main changes are:

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

b) the requirement for ambient and panel temperature and relative humidity during measurement has been stated more precisely;

c) the text was revised editorially and the normative references were 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*

— *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 the EN 13523 series specifies the procedure for determining the difference in the colour of an organic coating on a metallic substrate by visual comparison against a standard using either diffuse natural daylight or artificial daylight in a standard booth.

NOTE Results might differ between natural and artificial daylight.

It might be that two colour specimens will match in daylight but not under another light source. This phenomenon is known as metamerism (see EN 13523-15).

If a metameric match is to be reported in objective terms, spectrophotometric measurements (using CIE Standard Illuminants D65 and A) should be made, in accordance with EN 13523–15.

No statement is made about either the precision or the accuracy of this procedure since the results derived are neither in numerical form nor do they provide a pass/fail evaluation in objective terms. Therefore, this procedure should only be used where the use of colour measuring instruments is not recommendable (evaluation of colour matches, inspection of metallic colours, etc.).

The standardization of such visual comparisons, by light sources, illuminating and viewing geometry and specimen size, provides for improved uniformity of results. This practice is essential for critical colour matching and is highly recommended for colour inspections.

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*

3 Terms and definitions

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

3.1
colour
sensation resulting from the visual perception of light of a given spectral composition by the human eye

Note 1 to entry: The use of the German term “Farbe” alone, i.e. not in combination of words, for coating materials is deprecated.

Note 2 to entry: A colour is characterized by hue, chroma, and lightness.

[SOURCE: EN ISO 4618:2014, 2.58]

3.2
metamerism
phenomenon characterized by the difference in colour observed when two specimens visually matching under a given light source are viewed under another light source with different spectral characteristics

[SOURCE: EN 13523-15:2015, 3.1]