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NSAI Standards

Irish Standard
I.S. EN 13523-10:2017

Coil coated metals - Test methods - Part 10: Resistance to fluorescent UV radiation and water condensation

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I.S. EN 13523-10:2017

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National Foreword

I.S. EN 13523-10:2017 is the adopted Irish version of the European Document EN 13523-10:2017, Coil coated metals - Test methods - Part 10: Resistance to fluorescent UV radiation and water condensation

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13523-10

February 2017

ICS 25.220.60

Supersedes EN 13523-10:2010

English Version

Coil coated metals - Test methods - Part 10: Resistance to fluorescent UV radiation and water condensation

Tôles prélaquées - Méthodes d'essai - Partie 10 : Résistance à un rayonnement UV fluorescent et à la condensation de l'eau

Bandbeschichtete Metalle - Prüfverfahren - Teil 10: Beständigkeit gegen UV-Strahlung mit Leuchtstofflampen und Kondensation von Wasser

This European Standard was approved by CEN on 18 December 2016.

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European foreword

This document (EN 13523-10:2017) 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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.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 13523-10:2010.

The main changes are:

a) the distance of the test specimen to the lamps is device-specific and not necessary for carrying out the test; so the requirement to expose the face of the test specimens at a distance of about 50 mm from the nearest surface of the lamp has been deleted;

b) a remark on repositioning of the specimens during exposure has been added;

c) a remark on removing or re-arranging the test panels during the process has been added;

d) 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*

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— *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 basic principles and procedure for determining the resistance of an organic coating on a metallic substrate (coil coating) to a combination of fluorescent UV radiation, and water condensation and temperature under controlled conditions.

Due to varied conditions which occur during natural weathering and the extreme nature of accelerated testing, correlation between the two cannot be expected.

Not all organic coatings will perform on an equal basis but a degree of correlation between the same generic type might be observed.

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, *Coil coated metals - Test methods - Part 0: General introduction*

EN 13523-2, *Coil coated metals - Test methods - Part 2: Gloss*

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

EN 13523-14, *Coil coated metals - Test methods - Part 14: Chalking (Helmen method)*

EN 13523-22, *Coil coated metals - Test methods - Part 22: Colour difference - Visual comparison*

EN ISO 16474-3, *Paints and varnishes - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps (ISO 16474-3)*

3 Terms and definitions

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

4 Principle

The coating is exposed in a cyclic manner to UV radiation, condensation of water and temperature under controlled conditions.

One of two types of fluorescent UV lamps, UVA-340 or UVB-313, is used.

After exposure to UV radiation under controlled conditions, chalking and changes in gloss and colour are assessed.

5 Apparatus and materials

Ordinary laboratory apparatus and glassware, together with the following.

5.1 Test chamber.

The test chamber shall be constructed of corrosion resistant materials. Enclosed within the test chamber shall be eight fluorescent lamps (5.2), a heater pan, racks for test specimens, and provisions for indicating and controlling operating times and temperatures.

The lamps shall be in banks of four on either side of the cabinet. Electrical operating conditions for the lamps shall be as given by the manufacturer.

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