



**NSAI**  
Standards

Irish Standard  
I.S. EN 13523-9:2014

## Coil coated metals - Test methods - Part 9: Resistance to water immersion

**I.S. EN 13523-9:2014**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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EUROPEAN STANDARD

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English Version

## Coil coated metals - Test methods - Part 9: Resistance to water immersion

Tôles prélaquées - Méthodes d'essai - Partie 9: Résistance  
à l'immersion dans l'eau

Bandbeschichtete Metalle - Prüfverfahren - Teil 9:  
Beständigkeit gegen Eintauchen in Wasser

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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.

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## Foreword

This document (EN 13523-9:2014) 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of an identical text or by endorsement, at the latest by December 2014, and conflicting national standards shall be withdrawn at the latest by December 2014.

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.

This document supersedes EN 13523-9:2001.

The main technical changes are:

- a) in 5.3 the angle 15° to 20° to the vertical was revised;
- b) in 5.5 the description of the cutting tool and cut was revised and aligned with EN 13523-19, i.e. 0,2 mm width;
- c) in 8.2 "dry them in a stream of warm air" was changed to "Immediately after removal of the test panel from the tank";
- d) in 8.2.3 only one procedure for category 1 and category 2 coatings is specified for measuring corrosion creep;
- e) for the expression of results in Clause 9 reference to EN ISO 4628-2 for blistering and EN ISO 4628-8 for delamination around a scribe was added;
- f) in Figure A.1 an indication of the rolling direction 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*

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- *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 (Cataplasma test)*
- *Part 29: Resistance to environmental soiling (Dirt pick-up and striping)*

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This part of EN 13523 specifies the procedure for determining the resistance to water immersion of an organic coating on a metallic substrate.

The test is applicable to all kinds of organic coatings, including metallics and embossed, textured, pearlescent and printed coatings. The results of the test give an indication of the resistance of the coil coated metal to water.

The method is not intended to reproduce any particular condition of condensation.

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

EN 60454-2, *Pressure-sensitive adhesive tapes for electrical purposes — Part 2: Methods of test (IEC 60454-2)*

EN ISO 4628-2, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 2: Assessment of degree of blistering (ISO 4628-2)*

EN ISO 4628-8:2012, *Paints and varnishes - Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 8: Assessment of degree of delamination and corrosion around a scribe or other artificial defect (ISO 4628-8:2012)*

EN ISO 17872, *Paints and varnishes — Guidelines for the introduction of scribe marks through coatings on metallic panels for corrosion testing (ISO 17872)*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13523-0:2014 apply.

## 4 Principle

A test specimen is immersed in water at about 40 °C for a defined period of time. The degree of blistering on the general surface and the corrosion at the cut edges and scribes are then evaluated.

NOTE The procedure described in this part of EN 13523 is similar to the test method specified in EN ISO 2812-2. A major difference is that the water is not aerated.

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