Coil coated metals - Test methods - Part 29: Resistance to environmental soiling (Dirt pick-up and striping)

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

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NATIONAL FOREWORD

See Eesti standard EVS-EN 13523-29:2024 sisaldab Euroopa standardi EN 13523-29:2024 ingliskeelset teksti.	This Estonian standard EVS-EN 13523-29:2024 consists of the English text of the European standard EN 13523-29:2024.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.04.2024.	Date of Availability of the European standard is 24.04.2024.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Coil coated metals - Test methods - Part 29: Resistance to environmental soiling (Dirt pick-up and striping)

Tôles prélaquées - Méthodes d'essai - Partie 29 : Résistance à la pollution environnementale (salissures)

Bandbeschichtete Metalle - Prüfverfahren - Teil 29: Beständigkeit gegen Verschmutzung (Schmutzaufnahme und Streifenbildung)

This European Standard was approved by CEN on 1 January 2024.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 13523-29:2024) 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of an identical text or by endorsement, at the latest by October 2024, and conflicting national standards shall be withdrawn at the latest by October 2024.

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 13523-29:2017.

EN 13523-29:2024 includes the following significant technical changes with respect to EN 13523-29:2017:

a) 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, Türkiye and the United Kingdom.

1 Scope

This document specifies a procedure for the comparative evaluation of resistance to soiling of an organic coating on a metallic substrate (coil coating) in an outdoor exposure environment, particularly the soiling defect known as “tiger stripes”.

In addition to tiger stripes, other types of dirt retention can be noted.

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

EN 13523-19:2019, *Coil coated metals — Test methods — Part 19: Panel design and method of atmospheric exposure testing*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

4 Principle

A test panel is exposed along with known reference panels, to the effects of atmospheric dirt and rain. The dirt and rain are collected and directed onto the surface of the panels in such a way as to channel rainwater thus creating the conditions to form stripes on the surface under test.

5 Apparatus and materials

5.1 Exposure rack design in accordance with EN 13523-19:2019, Clause 4 and Figure 4, modified as described below.

The area of the rack normally used for the exposure of panels to the 5° orientation is used to install a sheet made of UV stable polymeric material (e.g. polycarbonate). This sheet forms the collector of the atmospheric soil and is angled on the upper surface of the rack at between 10° and 12° with respect to the horizontal plane to control the rate of run-off of rainwater. The machining imparts grooves of 3 mm width and 3 mm depth at a separation of 3 mm extending along the surface and over the rounded edge to direct rainwater onto the panels in rivulets (see Figures 1 and 2).

The upper row of the 90° North facing exposure area of the rack is used to fix the panels, having removed the existing overhang. Two rows are used for this exposure if the panels are longer than 200 mm. The test panels are positioned so that the top edge is in uniform contact with the bottom edge of the collector overhang.