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Railway Applications - Coating of passenger rail vehicle (ISO 9466:2025)

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

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English Version

Railway Applications - Coating of passenger rail vehicle (ISO 9466:2025)

Applications ferroviaires - Peinturage des véhicules ferroviaires destinés au transport de passagers (ISO 9466:2025)

Bahnanwendungen - Lackierung von Schienenfahrzeugen für den Personenverkehr (ISO 9466:2025)

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European foreword

This document (EN ISO 9466:2025) has been prepared by Technical Committee ISO/TC 269 "Railway applications" in collaboration with Technical Committee CEN/TC 256 “Railway applications” the secretariat of which is held by DIN.

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International Standard

ISO 9466

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Applications ferroviaires — Peinturage des véhicules ferroviaires destinés au transport de passagers

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Foreword

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This document was prepared by Technical Committee ISO/TC 269, *Railway applications*, Subcommittee SC 2, *Rolling stock*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 256, *Railway applications,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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International Standard **ISO 9466:2025(en)**

Railway applications — Coating of passenger rail vehicles

1 Scope

This document establishes the performance requirements and acceptance criteria for coating material used for passenger rolling stock, locomotives and components.

This document also provides guidance on the coating application processes, product selection, surface preparation, coating application, verification and inspection methods, repairs, refurbishment (refresh, etc.), and tests to measure the minimum performance for the final product.

This document applies to all types of coating materials (liquid, powder, etc.) used on

— railway vehicle bodies, and

— on-board equipment and constituent parts.

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.

ISO 1518-1, *Paints and varnishes — Determination of scratch resistance — Part 1: Constant-loading method*

ISO 1519, *Paints and varnishes — Bend test (cylindrical mandrel)*

ISO 2409:2020, *Paints and varnishes — Cross-cut test*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 2811-1, *Paints and varnishes — Determination of density — Part 1: Pycnometer method*

ISO 2812-3, *Paints and varnishes — Determination of resistance to liquids — Part 3: Method using an absorbent medium*

ISO 2813, *Paints and varnishes — Determination of gloss value at 20°, 60° and 85°*

ISO 3233-3, *Paints and varnishes — Determination of the percentage volume of non-volatile matter — Part 3: Determination by calculation from the non-volatile-matter content determined in accordance with ISO 3251, the density of the coating material and the density of the solvent in the coating material*

ISO 3251:2019, *Paints, varnishes and plastics — Determination of non-volatile-matter content*

ISO 3668, *Paints and varnishes — Visual comparison of colour of paints*

ISO 4545-1:2023, *Metallic materials — Knoop hardness test — Part 1: Test method*

ISO 4618:2023, *Paints and varnishes — Vocabulary*

ISO 4624:2023, *Paints and varnishes — Pull-off test for adhesion*

ISO 4628-2:2016, *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 4628-3:2024, *Paints and varnishes — Evaluation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 3: Assessment of degree of rusting*

ISO 4628-4:2016, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 4: Assessment of degree of cracking*

ISO 4628-5:2022, *Paints and varnishes — Evaluation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 5: Assessment of degree of flaking*

ISO 4628-8, *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 6270-2, *Paints and varnishes — Determination of resistance to humidity — Part 2: Condensation (in-cabinet exposure with heated water reservoir)*

ISO 6272-1, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 1: Falling-weight test, large-area indenter*

ISO 6344-2:2021, *Coated abrasives — Determination and designation of grain size distribution — Part 2: Macrogrit sizes P12 to P220*

ISO 6344-3, *Coated abrasives — Determination and designation of grain size distribution — Part 3: Microgrit sizes P240 to P5000*

ISO 6504-3:2019, *Paints and varnishes — Determination of hiding power — Part 3: Determination of hiding power of paints for masonry, concrete and interior use*

ISO 6507-1:2023, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 7784-1, *Paints and varnishes — Determination of resistance to abrasion — Part 1: Method with abrasive-paper covered wheels and rotating test specimen*

ISO 8130-1, *Coating powders — Part 1: Determination of particle size distribution by sieving*

ISO 8130-13, *Coating powders — Part 13: Particle size analysis by laser diffraction*

ISO 8130-8:2021, *Coating powders — Part 8: Assessment of the storage stability of thermosetting powders*

ISO 8501-1:2007, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

ISO 8502-3, *Preparation of steel substrates before application of paints and related products — Tests for the assessment of surface cleanliness — Part 3: Assessment of dust on steel surfaces prepared for painting (pressure-sensitive tape method)*

ISO 8503-1, *Preparation of steel substrates before application of paints and related products — Surface roughness characteristics of blast-cleaned steel substrates — Part 1: Specifications and definitions for ISO surface profile comparators for the assessment of abrasive blast-cleaned surfaces*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 9514, *Paints and varnishes — Determination of the pot life of multicomponent coating systems — Preparation and conditioning of samples and guidelines for testing*

ISO 11890-1, *Paints and varnishes — Determination of volatile organic compounds (VOC) and/or semi volatile organic compounds (SVOC) content — Part 1: Gravimetric method for VOC determination*

ISO 11890-2, *Paints and varnishes — Determination of volatile organic compounds(VOC) and/or semi volatile organic compounds (SVOC) content — Part 2: Gas-chromatographic method*

ISO 16276-2, *Corrosion protection of steel structures by protective paint systems — Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating — Part 2: Cross-cut testing and X-cut testing*

ISO 16474-2:2013/Amd 1:2022, *Paints and varnishes — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps — Amendment 1: Classification of daylight filters*

ISO 16862:2003, *Paints and varnishes — Evaluation of sag resistance*

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

ISO 18768-1, *Organic coatings on aluminium and its alloys — Methods for specifying decorative and protective organic coatings on aluminium — Part 1: Powder coatings*

ISO 19840, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Measurement of, and acceptance criteria for, the thickness of dry films on rough surfaces*

ISO 20567-1:2017, *Paints and varnishes — Determination of stone-chip resistance of coatings — Part 1: Multi-impact testing*

ISO 22163:2023, *Railway applications — Railway quality management system — ISO 9001:2015 and specific requirements for application in the railway sector*

ISO/CIE 11664-1, *Colorimetry — Part 1: CIE standard colorimetric observers*

ISO/CIE 11664-2, *Colorimetry — Part 2: CIE standard illuminants*

ISO/CIE 11664-3, *Colorimetry — Part 3: CIE tristimulus values*

ISO/CIE 11664-4, *Colorimetry — Part 4: CIE 1976 L*a*b* colour space*

ISO/CIE 11664-5, *Colorimetry — Part 5: CIE 1976 L*u*v* colour space and u', v' uniform chromaticity scale diagram*

ISO/CIE 11664-6, *Colorimetry — Part 6: CIEDE2000 colour-difference formula*