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Paints and varnishes - Coating of aluminium and aluminium alloys for architectural purposes - Part 1: Coatings prepared from thermosetting coating powder

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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See Eesti standard EVS-EN 12206-1:2021 sisaldab Euroopa standardi EN 12206-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 12206-1:2021 consists of the English text of the European standard EN 12206-1:2021.
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 12.05.2021.	Date of Availability of the European standard is 12.05.2021.
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ICS 87.040

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12206-1

May 2021

ICS 87.040

Supersedes EN 12206-1:2004

English Version

Paints and varnishes - Coating of aluminium and aluminium alloys for architectural purposes - Part 1: Coatings prepared from thermosetting coating powder

Peintures et vernis - Revêtement de l'aluminium et de ses alliages pour des applications architecturales - Partie 1: Revêtements à partir de peinture en poudre thermodurcissable

Beschichtungsstoffe - Beschichtungen auf Aluminium und Aluminiumlegierungen für Bauzwecke - Teil 1: Beschichtungen aus Beschichtungspulvern

This European Standard was approved by CEN on 1 September 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 12206-1:2021) 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of an identical text or by endorsement, at the latest by November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

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 12206-1:2004.

In comparison with the previous edition, the following changes have been made:

— 3.4: Definition source amended;

— 4.2.2.1: Methods of pretreatment now includes deluging;

— 4.2.2.2: Change of terminology to etching;

— 4.2.2.2.1: Clause added;

— 4.2.2.2.2 Clause added;

— 4.2.2.3.3: Process for non-chromate systems more defined;

— 4.2.2.3.4: Process for electrolytic conversion more defined;

— 4.2.2.3.4: Separate clause for electrolytic conversion added;

— 4.3.1: Identification of powder now required;

— 4.3.1: Separation of conventional technology and enhanced durability products removed;

— 4.3.2: Clause added;

— 4.3.3.5: Cupping test – 2 categories introduced;

— 4.3.3.6: Falling weight test – 2 categories introduced;

— 4.3.3.7: Bend test – 2 categories introduced;

— 4.3.3.14: Manufacturer to state length of resistance to weathering test;

— 4.5.2-4.5.9: Clauses renumbered;

— 4.5.6: Minimum film thickness requirement altered;

— 4.6: Clause added;

— 5.4: Colourimetrically standards added;

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— 5.8: Clause amended;

— 5.16: Clause amended;

— Annex B: Natural weathering test requirements altered;

— Annex C: Test procedure for film thickness tests removed;

— Annex D: Deleted;

— Annex E: Deleted;

— Annex F: Deleted.

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, Turkey and the United Kingdom.

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Introduction

This is the first part of EN 12206. The present intention is to develop another part dealing with the organic coating of aluminium and aluminium alloy extrusions, sheet and preformed sections for architectural purposes, prepared from liquid coating materials.

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1 Scope

This document specifies requirements and the corresponding methods of test relating to the organic coating of aluminium and aluminium alloy extrusions, sheet and preformed sections for architectural purposes, using coating powders. It also describes:

a) the pretreatment of the substrate prior to the coating process;

b) the coating powder;

c) the coating process;

d) the final product.

Each item is dealt with separately in this document so that any interested party can ensure compliance appropriate to its area of responsibility.

CAUTION — The procedures described in this standard are intended to be carried out by suitably trained and/or supervised personnel. The substances and procedures used in this method could be injurious to health if adequate precautions are not taken. Attention is drawn in the text to specific hazards. This document refers only to technical suitability and does not absolve the user from statutory obligations relating to health and safety.

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 573-3, *Aluminium and aluminium alloys - Chemical composition and form of wrought products - Part 3: Chemical composition and form of products*

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

EN ISO 1520, *Paints and varnishes - Cupping test (ISO 1520)*

EN ISO 2409, *Paints and varnishes - Cross-cut test (ISO 2409)*

EN ISO 2810, *Paints and varnishes - Natural weathering of coatings - Exposure and assessment (ISO 2810)*

EN ISO 2813, *Paints and varnishes - Determination of gloss value at 20°, 60° and 85° (ISO 2813)*

EN ISO 3231, *Paints and varnishes - Determination of resistance to humid atmospheres containing sulfur dioxide (ISO 3231)*

EN ISO 3668, *Paints and varnishes - Visual comparison of colour of paints (ISO 3668)*

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

EN ISO 6270-1, *Paints and varnishes - Determination of resistance to humidity - Part 1: Condensation (single-sided exposure) (ISO 6270-1)*

EN ISO 8130-9, *Coating powders - Part 9: Sampling (ISO 8130-9)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

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EN ISO 16474-2:2013, *Paints and varnishes - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (ISO 16474-2:2013)*

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

EN ISO 18314-1, *Analytical colorimetry - Part 1: Practical colour measurement (ISO 18314-1)*

ISO 2143, *Anodizing of aluminium and its alloys — Estimation of loss of absorptive power of anodic oxidation coatings after sealing — Dye-spot test with prior acid treatment*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 2859-2, *Sampling procedures for inspection by attributes — Part 2: Sampling plans indexed by limiting quality (LQ) for isolated lot inspection*

ISO 4623-2, *Paints and varnishes — Determination of resistance to filiform corrosion — Part 2: Aluminium substrates*

ISO 9223, *Corrosion of metals and alloys — Corrosivity of atmospheres — Classification, determination and estimation*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
powder coating
continuous layer of a coating powder which has been applied to the aluminium or aluminium alloy substrate and which is protective or decorative, or both

3.2
conversion layer
layer produced on an aluminium surface by chemical pretreatment with or without the use of an applied electric current

3.3
finish
surface of the coated article which determines its appearance

3.4
coating powder
coating material in powder form which, after fusing and possibly curing, gives a continuous film

[SOURCE: EN ISO 4618:2014]

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