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Anodizing of aluminium and its alloys - Method for specifying decorative and protective anodic oxidation coatings on aluminium (ISO 7599:2018)

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/18

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Supersedes EN ISO 7599:2010

English Version

Anodizing of aluminium and its alloys - Method for specifying decorative and protective anodic oxidation coatings on aluminium (ISO 7599:2018)

Anodisation de l'aluminium et de ses alliages -
Méthode de spécification des caractéristiques des
revêtements décoratifs et protecteurs obtenus par
oxydation anodique sur aluminium (ISO 7599:2018)

Anodisieren von Aluminium und
Aluminiumlegierungen - Verfahren zur Spezifizierung
dekorativer und schützender anodisch erzeugter
Oxidschichten auf Aluminium (ISO 7599:2018)

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EN ISO 7599:2018 (E)

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European foreword

This document (EN ISO 7599:2018) has been prepared by Technical Committee ISO/TC 79 "Light metals and their alloys" in collaboration with Technical Committee CEN/TC 132 "Aluminium and aluminium alloys", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2018, and conflicting national standards shall be withdrawn at the latest by August 2018.

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The text of ISO 7599:2018 has been approved by CEN as EN ISO 7599:2018 without any modification.

INTERNATIONAL STANDARD

ISO 7599

Third edition
2018-01

Anodizing of aluminium and its alloys — Method for specifying decorative and protective anodic oxidation coatings on aluminium

*Anodisation de l'aluminium et de ses alliages — Méthode de
spécification des caractéristiques des revêtements décoratifs et
protecteurs obtenus par oxydation anodique sur aluminium*



Reference number
ISO 7599:2018(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 2, *Organic and anodic oxidation coatings on aluminium*.

This third edition cancels and replaces the second edition (ISO 7599:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

- certain terms and definitions have been deleted;
- [Annex D](#) has been revised.

Anodizing of aluminium and its alloys — Method for specifying decorative and protective anodic oxidation coatings on aluminium

1 Scope

This document specifies a method for specifying decorative and protective anodic oxidation coatings on aluminium (including aluminium-based alloys). It defines the characteristic properties of anodic oxidation coatings, lists methods of test for checking the characteristic properties, provides minimum performance requirements, and gives information on the grades of aluminium suitable for anodizing and the importance of pretreatment to ensure the required appearance or texture of the finished work.

It is not applicable to

- a) non-porous anodic oxidation coatings of the barrier layer type,
- b) anodic oxidation coatings produced by chromic acid or phosphoric acid anodizing,
- c) anodic oxidation coatings intended merely to prepare the substrate for subsequent application of organic coatings or for the electrodeposition of metals, and
- d) hard anodic oxidation coatings used mainly for engineering purposes, for which abrasion and wear resistance are the primary characteristics (see ISO 10074).

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 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method*

ISO 2085, *Anodizing of aluminium and its alloys — Check for continuity of thin anodic oxidation coatings — Copper sulfate test*

ISO 2106, *Anodizing of aluminium and its alloys — Determination of mass per unit area (surface density) of anodic oxidation coatings — Gravimetric method*

ISO 2128, *Anodizing of aluminium and its alloys — Determination of thickness of anodic oxidation coatings — Non-destructive measurement by split-beam microscope*

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 2360, *Non-conductive coatings on non-magnetic electrically conductive base metals — Measurement of coating thickness — Amplitude-sensitive eddy-current method*

ISO 2376, *Anodizing of aluminium and its alloys — Determination of electric breakdown potential*

ISO 2931, *Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic oxidation coatings by measurement of admittance*

ISO 3210, *Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic oxidation coatings by measurement of the loss of mass after immersion in acid solution(s)*

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ISO 3211, *Anodizing of aluminium and its alloys — Assessment of resistance of anodic oxidation coatings to cracking by deformation*

ISO 7583, *Anodizing of aluminium and its alloys — Terms and definitions*

ISO 8251, *Anodizing of aluminium and its alloys — Measurement of abrasion resistance of anodic oxidation coatings*

ISO 8993, *Anodizing of aluminium and its alloys — Rating system for the evaluation of pitting corrosion — Chart method*

ISO 8994, *Anodizing of aluminium and its alloys — Rating system for the evaluation of pitting corrosion — Grid method*

ISO 9220, *Metallic coatings — Measurement of coating thickness — Scanning electron microscope method*

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

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