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Organic coatings on aluminium and its alloys — Methods for specifying decorative and protective organic coatings on aluminium —

Part 1: Powder coatings

Couches organiques sur l'aluminium et ses alliages — Méthodes de spécification des revêtements décoratifs et protecteurs sur aluminium —

Partie 1: Revêtements par poudre

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Foreword

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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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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*.

A list of all parts in the ISO 18768 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

There are three major surface treatments on aluminium and its alloys:

a) anodic oxidation coatings;

b) organic coatings;

c) combined coatings of anodic oxidation coatings and organic coatings.

This document and ISO 18768-2 provide the performance requirements and test methods for b) organic coatings.

Performance requirements and test methods for a) anodic oxidation coatings are given in ISO 7599 and for c) combined coatings of anodic oxidation coatings and organic coatings in ISO 28340.

It is assumed that users are familiar with other relevant international and regional standards. Those standards should be respected, and this document adopts optional systems in such cases.

Organic coatings on aluminium and its alloys — Methods for specifying decorative and protective organic coatings on aluminium —

Part 1: Powder coatings

1 Scope

This document specifies methods for specifying decorative and protective powder coatings on aluminium and its alloys. It defines the characteristic properties of powder coatings and provides testing methods with minimum performance requirements, with reference to the application and the aggressiveness of the environment in which the coated aluminium exists.

This document does not apply to coil coatings on aluminium.

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

ISO 1520, *Paints and varnishes — Cupping test*

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

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

ISO 2810, *Paints and varnishes — Natural weathering of coatings — Exposure and assessment*

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

ISO 2815, *Paints and varnishes — Buchholz indentation test*

ISO 3892, *Conversion coatings on metallic materials — Determination of coating mass per unit area — Gravimetric methods*

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

ISO 4628-1, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 1: General introduction and designation system*

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*