INTERNATIONAL STANDARD

ISO 8994

Third edition
2018-11

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

Anodisation de l'aluminium et de ses alliages — Système de cotation de la corrosion par piqûres — Méthode par quadrillage

Reference number
ISO 8994:2018(E)

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Published in Switzerland

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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*.

This third edition cancels and replaces the second edition (ISO 8994:2011), which has been technically revised.

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

— two terms have been added in Clause 3.

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.

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

1 Scope

This document specifies a grid rating system that provides a means of defining levels of performance of anodic oxidation coatings on aluminium and its alloys that have been subjected to corrosion tests.

This rating system is applicable to pitting corrosion resulting from

— accelerated tests,

— exposure to corrosive environments, and

— practical service tests.

This document takes into account only pitting corrosion of the basis metal resulting from penetration of the protective anodic oxidation coating.

NOTE 1 ISO 8993[1] describes a similar rating system based on defined chart scales.

NOTE 2 The grid rating system is frequently used for rating the results of short-term corrosion tests for relatively thin anodic oxidation coating, such as those used in the automotive industry.

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7583 and the following apply.

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

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

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

3.1
pitting corrosion
localized corrosion which results in *corrosion pit* (3.2)

3.2
corrosion pit
surface corrosion defect having a shortest diameter of 0,1 mm or larger, at which the anodic oxidation coating is penetrated

Note 1 to entry: Discoloration or other surface defects which do not penetrate the anodic coating do not count as corrosion pits.