

Anodizing of aluminium and its alloys - Method to test the surface abrasion resistance using glass-coated abrasive paper (ISO 18771:2019)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 18771:2020 sisaldab Euroopa standardi EN ISO 18771:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 18771:2020 consists of the English text of the European standard EN ISO 18771:2020.
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English Version

Anodizing of aluminium and its alloys - Method to test the
surface abrasion resistance using glass-coated abrasive
paper (ISO 18771:2019)

Anodisieren von Aluminium und seinen Legierungen -
Verfahren zur Prüfung der Oberflächenabriebfestigkeit
mit glasbeschichtetem Schleifpapier (ISO 18771:2019)

This European Standard was approved by CEN on 24 August 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

The text of ISO 18771:2019 has been prepared by Technical Committee ISO/TC 79 "Light metals and their alloys" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 18771:2020 by 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of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.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.

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Endorsement notice

The text of ISO 18771:2019 has been approved by CEN as EN ISO 18771:2020 without any modification.

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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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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*.

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

Surface abrasion resistance is a valid method of assessing the weathering resistance of an anodic oxidation coating. The higher the anodizing electrolyte concentration and temperature and the longer the immersion time in the electrolyte, the lower will be the abrasion resistance of the coating. In general, the lower the abrasion resistance the more likely the coating is to develop chalking in service.

Whole articles can be used for this test and, for those passing the test, it is non-destructive.

Anodizing of aluminium and its alloys — Method to test the surface abrasion resistance using glass-coated abrasive paper

1 Scope

This document specifies a method for the determination of the surface abrasion resistance of anodic oxidation coatings produced by sulfuric acid anodizing of aluminium and its alloys. It is mainly intended for the evaluation of external architectural coatings. It is a production control method that relies to a large extent on operator experience and instruction.

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 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD*

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 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)*

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

block

resilient support for the abrasive paper during the test

3.2

double stroke

one complete reciprocal movement across the measuring area on the test specimen

3.3

glass-coated abrasive paper

abrasive paper used for the surface abrasion-resistance test