

<b>STN</b>	<b>Anodická oxidácia hliníka a jeho zliatin Metóda na skúšanie oteruvzdornosti povrchu pomocou brúsneho papiera s povlakom skla (ISO 18771: 2019)</b>	<b>STN EN ISO 18771</b>  42 4308
------------	---	--

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

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. 02/21

Obsahuje: EN ISO 18771:2020, ISO 18771:2019

**132419**

EUROPEAN STANDARD

**EN ISO 18771**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2020

ICS 25.220.20

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.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN ISO 18771:2020 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

## **Endorsement notice**

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

**INTERNATIONAL  
STANDARD**

**ISO  
18771**

First edition  
2019-02

---

---

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



Reference number  
ISO 18771:2019(E)

© ISO 2019

**ISO 18771:2019(E)****COPYRIGHT PROTECTED DOCUMENT**

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Principle</b> .....	<b>2</b>
<b>5 Apparatus</b> .....	<b>2</b>
<b>6 Procedure</b> .....	<b>2</b>
6.1 Test specimen.....	2
6.2 Method 1.....	2
6.3 Method 2.....	3
<b>7 Test report</b> .....	<b>3</b>
<b>Annex A (normative) Method of validating glass-coated abrasive paper used for the surface abrasion test by applying tests with standard specimens of anodized aluminium</b> .....	<b>5</b>
<b>Bibliography</b> .....	<b>8</b>

## ISO 18771:2019(E)

### 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://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](http://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*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**