

STN	Anodická oxidácia hliníka a jeho zliatin Meranie zrkadlovej odrazivosti a zrkadlového lesku anodických oxidových povlakov pri uhle 20°, 45°, 60° alebo 85° (ISO 7668: 2021)	STN EN ISO 7668 42 4334
------------	--	---

Anodizing of aluminium and its alloys - Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20°, 45°, 60° or 85° (ISO 7668:2021)

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. 12/21

Obsahuje: EN ISO 7668:2021, ISO 7668:2021

Oznámením tejto normy sa ruší
STN EN ISO 7668 (42 4334) zo septembra 2018

134033

EUROPEAN STANDARD

EN ISO 7668

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2021

ICS 25.220.20

Supersedes EN ISO 7668:2018

English Version

Anodizing of aluminium and its alloys - Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20°, 45°, 60° or 85° (ISO 7668:2021)

Anodisation de l'aluminium et de ses alliages -
Mesurage des caractéristiques de réflectivité et de
brillant spéculaires des couches anodiques à angle fixe
de 20°, 45°, 60° ou 85° (ISO 7668:2021)

Anodisieren von Aluminium und
Aluminiumlegierungen - Messung des gerichteten
Reflexionsgrades und des Spiegelglanzes von anodisch
erzeugten Oxidschichten bei Winkeln von 20°, 45°, 60°
oder 85° (ISO 7668:2021)

This European Standard was approved by CEN on 17 August 2021.

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 7668:2021 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 7668:2021) 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 March 2022, and conflicting national standards shall be withdrawn at the latest by March 2022.

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.

This document supersedes EN ISO 7668:2018.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN websites.

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 7668:2021 has been approved by CEN as EN ISO 7668:2021 without any modification.

INTERNATIONAL STANDARD

ISO 7668

Fourth edition
2021-08

Anodizing of aluminium and its alloys — Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20°, 45°, 60° or 85°

*Anodisation de l'aluminium et de ses alliages — Mesurage des
caractéristiques de réflectivité et de brillant spéculaires des couches
anodiques à angle fixe de 20°, 45°, 60° ou 85°*



Reference number
ISO 7668:2021(E)

© ISO 2021

ISO 7668:2021(E)**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

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
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Apparatus	2
6 Geometric conditions	2
7 Optical standards	6
7.1 Reference standards.....	6
7.1.1 Black glass.....	6
7.1.2 Glass prism (for Method E only).....	6
7.2 Working standards.....	7
7.2.1 Description.....	7
7.2.2 Zero point check.....	7
8 Preparation and calibration of apparatus	7
9 Measurement of specular reflectance and specular gloss	8
9.1 General.....	8
9.2 Measurement of specular reflectance.....	8
9.3 Measurement of specular gloss.....	8
10 Expression of results	11
10.1 General.....	11
10.2 Specular reflectance.....	11
10.3 Specular gloss.....	11
11 Test report	11
Annex A (normative) Specular reflectance and specular gloss of black glass	12

ISO 7668:2021(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).

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).

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.

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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 132, *Aluminium and aluminium alloys*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 7668:2018), which has been technically revised. The main changes compared with the previous edition are as follows:

- [Tables 4](#) and [5](#) have been revised.

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

Specular reflectance and specular gloss are not unique physical properties of a surface. They vary with the angle of measurement, and with the aperture dimensions that define the incident and the reflected beams, such that measurements of these properties are not independent of the apparatus being used.

The specular reflectance of most surfaces increases with the angle of measurement and accounts for the use of reflectometers with various angles as, for example, for painted surfaces. The specular reflectance characteristics of anodized aluminium, however, do not always behave in the normal manner and, because of its property of double reflection, reflected light comes partly from the film surface and partly from the underlying metal. It is advisable to measure the specular reflectance characteristics at 20°, 45°, 60° and 85° to obtain a complete understanding of the specular reflectance properties of the anodized surface, and careful thought should be given to which method or methods are most relevant in any particular situation. The specular reflectance of bright-anodized aluminium with a mirror finish is best measured using 45° or 20° geometry.

Anodizing of aluminium and its alloys — Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20°, 45°, 60° or 85°

1 Scope

This document specifies methods for the measurement of specular reflectance and specular gloss of flat samples of anodized aluminium using geometries of 20° (Method A), 45° (Method B), 60° (Method C) and 85° (Method D) and of specular reflectance by an additional 45° method (Method E) employing a narrow acceptance angle.

The methods described are intended mainly for use with clear anodized surfaces. They can be used with colour-anodized aluminium, but only with similar colours.

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*

ISO/CIE 11664-1, *Colorimetry — Part 1: CIE standard colorimetric observers*

ISO 11664-2, *Colorimetry — Part 2: CIE standard illuminants*

CIE Publication No. 15, *Colorimetry*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN