Anodizing of aluminium and its alloys - Measurement of abrasion resistance of anodic oxidation coatings (ISO 8251:2011)

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 8251:2011 sisaldab Euroopa standardi EN ISO 8251:2011 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 8251:2011 consists of the English text of the European standard EN ISO 8251:2011.
Standard on kinnitatud Eesti Standardikeskuse 28.02.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.02.2011.	Date of Availability of the European standard text 01.02.2011.
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English Version

Anodizing of aluminium and its alloys - Measurement of abrasion resistance of anodic oxidation coatings (ISO 8251:2011)

Anodisation de l'aluminium et de ses alliages - Détermination de la résistance à l'abrasion des couches d'oxyde anodiques (ISO 8251:2011)

Anodisieren von Aluminium und Aluminiumlegierungen - Messung der Abriebfestigkeit von anodisch erzeugten Oxidschichten (ISO 8251:2011)

This European Standard was approved by CEN on 29 January 2011.

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

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Foreword

This document (EN ISO 8251:2011) 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of an identical text or by endorsement, at the latest by August 2011, and conflicting national standards shall be withdrawn at the latest by August 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12373-9:1998 and EN 12373-10:1998.

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Endorsement notice

The text of ISO 8251:2011 has been approved by CEN as a EN ISO 8251:2011 without any modification.

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Introduction

The resistance of anodic oxidation coatings to abrasion is an important property. As it is dependent upon the composition of the metal, the thickness of the coating and the conditions of anodizing and sealing, it can give information about the quality of the coating, its potential resistance to erosion or wear and its performance in service. For example, the effect of an abnormally high anodizing temperature, which could cause potential deterioration in service by chalking of the surface layers, may be readily detected by means of an abrasive wear resistance test.

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1 Scope

This International Standard specifies the following three test methods:

a) **abrasive-wheel-wear test method**, determining the wear resistance and the wear index of anodic oxidation coatings on flat specimens of aluminium and its alloys;

b) **abrasive jet test method**, comparing the resistance to abrasion of anodic oxidation coatings on aluminium and its alloys with that of a standard specimen or, alternatively, a reference specimen, by use of a jet of abrasive particles;

c) **falling sand abrasion method**, determining the abrasion resistance with falling sand applied to thin anodic oxidation coatings.

The use of these methods for coatings produced by hard anodizing is described in ISO 10074.

2 Normative references

The following referenced documents are indispensable for the application 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 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 2360:2003, *Non-conductive coatings on non-magnetic electrically conductive basis materials — Measurement of coating thickness — Amplitude-sensitive eddy-current method*

ISO 6344-1, *Coated abrasives — Grain size analysis — Part 1: Grain size distribution test*

ISO 8486-1:1996, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
test specimen
specimen on which the test is to be carried out

3.2
standard specimen
test specimen produced in accordance with the conditions specified in Annex A