



National Standards Authority of Ireland

IRISH STANDARD

**I.S. EN 12373-9:1999**

ICS 25.220.20

77.120.10

**ALUMINIUM AND ALUMINIUM ALLOYS -  
ANODIZING - PART 9: MEASUREMENT OF  
WEAR RESISTANCE AND WEAR INDEX OF  
ANODIC OXIDATION COATINGS USING AN  
ABRASIVE WHEEL WEAR TEST APPARATUS**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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November 1998

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Descriptors: surface treatment, anodizing, aluminium, aluminium alloys, wear tests, determination, wear resistance, abrasion resistance, specimen preparation

English version

**Aluminium and aluminium alloys - Anodizing - Part 9:  
Measurement of wear resistance and wear index of anodic  
oxidation coatings using an abrasive wheel wear test apparatus**

Aluminium et alliages d'aluminium - Anodisation - Partie 9:  
Détermination de la résistance à l'usure et de l'indice  
d'usure des couches d'oxyde anodiques par essai à la roue  
abrasive

Aluminium und Aluminiumlegierungen - Anodisieren - Teil  
9: Messung der Abriebfestigkeit und der Abriebzahl von  
anodisch erzeugten Oxidschichten durch Abriebprüfung mit  
einem Schleifscheiben-Prüfgerät

This European Standard was approved by CEN on 5 November 1998.

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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 Central Secretariat has the same status as the official versions.

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

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## Foreword

This European Standard has been prepared 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of an identical text or by endorsement, at the latest by May 1999, and conflicting national standards shall be withdrawn at the latest by May 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

It is based upon ISO 8251 : 1987.

In this standard, annex A is normative.

EN 12373, Aluminium and aluminium alloys – Anodizing, comprises the following parts:

- Part 1: Method for specifying decorative and protective anodic oxidation coatings on aluminium
- Part 2: Determination of mass per unit area (surface density) of anodic oxidation coatings – Gravimetric method
- Part 3: Determination of thickness of anodic oxide coatings – Non-destructive measurement by split beam microscope
- Part 4: Estimation of loss of absorptive power of anodic oxidation coatings after sealing by dye spot test with prior acid treatment
- Part 5: Assessment of quality of sealed anodic oxidation coatings by measurement of admittance
- Part 6: Assessment of quality of sealed anodic oxidation coatings by measurement of the loss of mass after immersion in phosphoric acid/chromic acid solution without prior acid treatment
- Part 7: Assessment of quality of sealed anodic oxidation coatings by measurement of the loss of mass after immersion in phosphoric acid/chromic acid solution with prior acid treatment
- Part 8: Determination of the comparative fastness to ultra-violet light and heat of

coloured anodic oxidation coatings

- Part 9: Measurement of wear resistance and wear index of anodic oxidation coatings using an abrasive wheel wear test apparatus
- Part 10: Measurement of mean specific abrasion resistance of anodic oxidation coatings using an abrasive jet test apparatus
- Part 11: Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20°, 45°, 60° or 85°
- Part 12: Measurement of reflectance characteristics of aluminium surfaces using integrating-sphere instruments
- Part 13: Measurement of reflectivity characteristics of aluminium surfaces using a goniophotometer or an abridged goniophotometer
- Part 14: Visual determination of image clarity of anodic oxidation coatings – Chart scale method
- Part 15: Assessment of resistance of anodic oxidation coatings to cracking by deformation
- Part 16: Check for continuity of thin anodic oxidation coatings – Copper sulfate test
- Part 17: Determination of electric breakdown potential
- Part 18: Rating system for the evaluation of pitting corrosion – Chart method
- Part 19: Rating system for the evaluation of pitting corrosion – Grid method

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