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Normklasse: P 24

Anodiseren van aluminium en aluminiumlegeringen - Beoordeling van de kwaliteit van gesloten, anodisch aangebrachte oxidelagen door het meten van de admittantie (ISO 2931:2010)

Anodisation de l'aluminium et de ses alliages - Évaluation de la qualité des couches anodiques colmatées par mesure de l'admittance (ISO 2931:2010)

Anodizing of aluminium and its alloys - Assessment of quality of sealed anodic oxidation coatings by measurement of admittance (ISO 2931:2010)

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Anodisation de l'aluminium et de ses alliages - Évaluation de la qualité des couches anodiques colmatées par mesurage de l'admittance (ISO 2931:2010)

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Anodizing of aluminium and its alloys - Assessment of quality of sealed anodic oxidation coatings by measurement of admittance (ISO 2931:2010)

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La présente norme européenne EN ISO 2931:2010 a le statut d'une norme belge.

La présente norme européenne existe en trois versions officielles (allemand, anglais, français).

English Version

Anodizing of aluminium and its alloys - Assessment of quality of sealed anodic oxidation coatings by measurement of admittance (ISO 2931:2010)

Anodisation de l'aluminium et de ses alliages - Évaluation de la qualité des couches anodiques colmatées par mesurage de l'admittance (ISO 2931:2010)

Anodisieren von Aluminium und Aluminiumlegierungen - Prüfung der Qualität von verdichteten, anodisch erzeugten Oxidschichten durch Messung des Scheinleitwertes (ISO 2931:2010)

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Contents

Page

Foreword.....	3
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Foreword

This document (EN ISO 2931:2010) 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of an identical text or by endorsement, at the latest by January 2011, and conflicting national standards shall be withdrawn at the latest by January 2011.

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The text of ISO 2931:2010 has been approved by CEN as a EN ISO 2931:2010 without any modification.

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**INTERNATIONAL
STANDARD**

**ISO
2931**

Third edition
2010-07-01

**Anodizing of aluminium and its alloys —
Assessment of quality of sealed anodic
oxidation coatings by measurement of
admittance**

*Anodisation de l'aluminium et de ses alliages — Évaluation de la qualité
des couches anodiques colmatées par mesurage de l'admittance*



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Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle.....	2
5 Apparatus and materials.....	2
6 Test pieces	2
7 Procedure	2
8 Expression of results	3
9 Test report.....	4
Bibliography.....	5

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 2931 was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 2, *Organic and anodic oxidation coatings on aluminium*.

This third edition cancels and replaces the second edition (ISO 2931:1983), which has been technically revised.

Introduction

The test described in this International Standard is intended to give a quick, non-destructive assessment of the quality of sealed anodic oxidation coatings and is very suitable for routine production control. It is carried out following sealing and before any other supplementary process is undertaken, for example, oiling, waxing or lacquering.

The correlation of the results obtained with those of other sealing tests may be affected by the presence of sealing additives, or contaminants such as silicate or phosphate. For this reason, sealing quality is checked from time to time by one of the reference acid-dissolution methods specified in ISO 3210.

The pretreatment, the anodizing process, the colouring process used and the alloy can all have an effect on admittance readings.

Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic oxidation coatings by measurement of admittance

1 Scope

This International Standard specifies a method for assessing the quality of sealed anodic oxidation coatings on aluminium and its alloys by measurement of the admittance.

The method is applicable to anodic oxidation coatings sealed in an aqueous medium.

The method is suitable for use as a production-control test and as an acceptance test where there is agreement between the supplier and the customer.

Any type of anodized component can be tested by the method described, provided that there is a sufficient area (a circle of diameter about 20 mm) and that the film thickness is greater than 3 µm.

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

3 Terms and definitions

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

3.1

admittance

Y

inverse of the complex apparent resistance, Z

$$Y = 1/Z$$

NOTE In an alternating current circuit, Z (impedance) is represented by the vectorial sum of actual resistance, R , and the reactance, X_c using Equation (1).

$$Z = \sqrt{X_c^2 + R^2} \quad (1)$$

where

R is the resistance, in ohms;

$X_c = \frac{1}{2\pi f C}$ is the reactance;