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British Standard Methods of test for

Anodic oxidation coatings on aluminium and its alloys

Part 3. Assessment of sealing quality by measurement of the loss of mass after immersion in phosphoric-chromic acid solution

[ISO title: Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic coatings by measurement of the loss of mass after immersion in phosphoric-chromic acid solution]

Méthodes d'essai des couches anodiques sur aluminium et alliages d'aluminium
Partie 3. Evaluation de la qualité du colmatage par mesurage de la perte de masse
après immersion en solution phospho-chromique

Verfahren zur Prüfung von anodisch erzeugten Oxidschichten auf Aluminium und Aluminiumlegierungen
Teil 3. Beurteilung der Güte der Verdichtung durch Messung des Massenverlustes nach Tauchbad
in einer Phosphor-Chromsäure-Lösung

Contents	Page	Page
National foreword	Inside front cover	1
Committees responsible	Back cover	1
Method		
1. Scope	1	1
2. Field of application	1	1
3. Reference	1	2
4. Principle	1	2
5. Reagents	1	2
		Annex
		Suggested method for drying of samples before and after acid treatment
		3

National foreword

This revision of this Part of BS 6161 has been prepared under the direction of the Surface Coatings (other than Paints) Standards Committee and supersedes the 1981 edition which is withdrawn. It is identical with ISO 3210-1983 'Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic coatings by measurement of the loss of mass after immersion in phosphoric-chromic acid solution', published by the International Standards Organization (ISO). ISO 3210 was prepared by Subcommittee 2 'Anodized aluminium' of Technical Committee 79 'Light metals and their alloys' with the active participation and approval of the UK.

This revision differs from the 1981 edition as follows.

- (a) A correction has been made in respect of an incorrectly specified reagent.
- (b) The procedure has been more rigorously described and provision made for more accurate weighing of the test specimen.
- (c) A procedure has been included for drying the test specimen before and after acid treatment.

The individual Parts of this standard are intended to replace progressively the appendices of BS 1615 : 1972 'Anodic oxidation coatings on aluminium' and, when all the test methods required for the purposes of that standard have been issued as Parts of BS 6161, BS 1615 will be revised accordingly.

Further Parts of this standard are in preparation; at present the following Parts have been published:

- Part 1 Determination of mass per unit area of anodic oxide coatings (gravimetric method)
- Part 2 Determination of thickness of anodic oxide coatings: non-destructive measurement by split-beam microscope
- Part 3 Assessment of sealing quality by measurement of the loss of mass after immersion in phosphoric-chromic acid solution
- Part 4 Assessment of sealing quality by measurement of the loss of mass after immersion in acid solution
- Part 5 Estimation of loss of absorptive power of sealed coatings: dye spot test with prior acid treatment
- Part 6 Assessment of sealing quality by measurement of admittance or impedance
- Part 7 Accelerated test of light fastness of coloured anodic oxidation coatings using artificial light
- Part 8 Determination of the fastness to ultraviolet light of coloured anodic oxide coatings.

Terminology and conventions. The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'Part of BS 6161'.

Cross-reference

International standard	Corresponding British Standard
ISO 2143-1981	BS 6161 Methods of test for anodic oxidation coatings on aluminium and its alloys Part 5 : 1982 Estimation of loss of absorptive power of sealed coatings: dye spot test with prior acid treatment (Identical)

Additional information. With reference to clause 5, water complying with BS 3978 'Water for laboratory use', is suitable.

WARNING. Chromium (VI) oxide, specified in 5.2, causes severe burns and, in contact with combustible material, may cause fire. Avoid inhaling dust. Prevent contact with the eyes and skin.

NOTE. In 8.5, line 4, delete 'immediatly' and substitute 'immediately'.

This Part of BS 6161 describes a method of test only and should not be used or quoted as a specification defining sealing quality. Reference to this Part should state that the method of test used is in accordance with BS 6161 : Part 3.

Compliance with a British Standard does not of itself confer immunity from legal obligations.