EESTI STANDARD EVS-EN 2284:2000

Lennunduse ja kosmonautika seeria. Alumiiniumi ja deformeeritavate alumiiniumisulamite anodeerimine väävelhappes

Aerospace series - Sulphuric acid anodizing of aluminium and wrought aluminium alloys

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 2284:2000 sisaldab Euroopa standardi EN 2284:1991 ingliskeelset teksti.	This Estonian standard EVS-EN 2284:2000 consists of the English text of the European standard EN 2284:1991.
Standard on kinnitatud Eesti Standardikeskuse 11.01.2000 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 11.01.2000 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

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English version

Aerospace series
Sulphuric acid anodizing
of aluminium and wrought aluminium alloys

Série aérospatiale
Anodisation sulfurique de l'aluminium et des alliages d'aluminium corroyés

Luft- und Raumfahrt
Schwefelsäure-Anodisieren von Aluminium und Aluminium-Knetlegierungen

This European Standard was accepted by CEN on 1990-06-28. CEN members are bound to comply with the requirements of CEN 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 Central Secretariat 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 CEN Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat : Rue de Stassart, 36, B—1050 Bruxelles

Contents

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

According to the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

1 Scope and field of application

This standard specifies the required characteristics for the performance of sulphuric acid anodizing with or without sealing as well as quality assurance of the coating obtained.

It applies to parts in aluminium and wrought aluminium alloys of category 1 and 2 (see clause 4) used in aerospace construction when reference is made to this standard.

2 Purpose of anodizing

2.1 Type A : Unsealed anodizing

It shall be used either as surface preparation before the application of paint or any other finish.

2.2 Type B : Sealed anodizing

It is intended for corrosion protection. It shall be with or without colouring and used with or without additional painting.

NOTE : Sulphuric acid anodizing diminishes the fatigue characteristics of the parts; therefore its application shall be avoided for parts subject to high fatigue stress.

3 References

ISO 1463-1982	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method
ISO 2085-1976	Anodizing of aluminium and its alloys - Check of continuity of thin anodic oxide coatings - Copper sulphate test
ISO 2106-1982	Anodizing of aluminium and its alloys - Determination of mass per unit area (surface density) of anodic oxide coatings - Gravimetric method
ISO 2143-1981	Anodizing of aluminium and its alloys - Estimation of the loss of absorptive power of anodic oxide coatings after sealing - Dye spot test with prior acid treatment
ISO 2360-1982	Non-conductive coatings on non-magnetic basis metals - Measurement of coating thickness - Eddy current method
ISO 2376-1972	Anodization (anodic oxidation) of aluminium and its alloys - Insulation check by measurement of breakdown potential

ISO 3768-1976	Metallic coatings - Neutral salt spray test (NSS test)
EN 2101	Aerospace series - Chromic acid anodizing of aluminium and wrought aluminium alloys
EN 2334	Aerospace series - Acid chromate pickle for aluminium alloys [1].

4 Material categories

4.1 Category 1

Pure aluminium, clad alloys, alloys characterised by the absence of copper or with a copper content limited to 1 %.

4.2 Category 2

Non-clad alloys containing >1 % copper (classified only according to their heat treatment condition) :

- Category 2 A : solution heat treated, quenched and naturally aged condition
- Category 2 B : solution heat treated, quenched plus artificially aged condition.

5 Supporting jig

The supporting jig (e.g. in aluminium alloy or titanium) shall provide effective electrical contact with the parts.

This contact is preferably achieved at several points in order to ensure better current distribution.

6 Processing sequence

6.1 Cleaning (see EN 2101, annex A)

The cleaning method used shall be appropriate for the contamination experienced on the materials treated.

Solvent degreasing followed by cleaning in an alkaline bath is generally the most effective method.

1) In preparation at the date of publication of this standard.