



BSI Standards Publication

Aerospace series — Tartaric-Sulphuric-Acid anodizing of aluminium and aluminium wrought alloys for corrosion protection and paint pretreatment (TSA)

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ACE/65, Non-metallic materials for aerospace purposes.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Aerospace series - Tartaric-Sulphuric-Acid anodizing of
aluminium and aluminium wrought alloys for corrosion protection
and paint pre-treatment (TSA)**

Série aérospatiale - Anodisation tartrique de l'aluminium et
des alliages d'aluminium corroyés pour protection contre la
corrosion et peinture (TSA)

Luft- und Raumfahrt - Weinsäure-Schwefelsäure-
Anodisieren (TSA) von Aluminium und Aluminium-
Knetlegierungen für den Korrosionsschutz und zur
Vorbehandlung

This European Standard was approved by CEN on 23 December 2011.

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Foreword

This document (EN 4704:2012) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

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

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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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1 Scope

This European Standard defines the requirement for Tartaric-Sulphuric-Acid (TSA) anodizing of aluminium and wrought alloys for corrosion protection and paint pre-treatment.

The purpose of this European Standard is to give design and quality requirements to manufactures.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2101, *Aerospace series — Chromic acid anodizing of aluminium and wrought aluminium alloys*

EN 3665, *Aerospace series — Test methods for paints and varnishes — Filiform corrosion resistance test on aluminium alloys*

EN 6072, *Aerospace series — Metallic materials — Test methods — Constant amplitude fatigue testing*

EN ISO 2106, *Anodizing of aluminium and its alloys — Determination of mass per unit area (surface density) of anodic oxidation coatings — Gravimetric method (ISO 2106:2011)*

EN ISO 2409, *Paints and varnishes — Cross-cut test (ISO 2409)*

EN ISO 9227 *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227)*

EN ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling (ISO 15528)*

3 Terms and definitions

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

3.1

de-anodizing

process, which removes the anodic oxide

3.2

smut

precipitations of alloying elements (e. g. Cu, Fe, Zn, Si) on the surface of parts after a process step normally after alkaline etching step