

Aerospace series - Vacuum deposition of cadmium

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 2535:2011 sisaldab Euroopa standardi EN 2535:2011 ingliskeelset teksti.

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ICS 49.040

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ICS 49.040

English Version

Aerospace series - Vacuum deposition of cadmium

Série aérospatiale - Cadmiage sous vide

Luft- und Raumfahrt - Aufdampfen von Kadmium im
Vakuum

This European Standard was approved by CEN on 12 February 2011.

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Foreword

This document (EN 2535:2011) 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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

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1 Scope

This European Standard defines the method for depositing cadmium layers according to the vacuum deposition process, for use in aerospace construction.

According to this process, cadmium metal is vaporised under vacuum and deposited directly on the base material with an interlayer. The coating produced in this way is ductile and electrically conductive.

This standard should be applicable whenever referenced.

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.

EN 2828, *Aerospace series — Adhesion test for metallic coatings by burnishing*

EN 9100, *Aerospace series - Quality management systems - Requirements (based on ISO 9001:2000) and Quality systems - Model for quality assurance in design, development, production, installation and servicing (based on ISO 9001:1994)*

EN ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method*

EN ISO 2082, *Metallic and other inorganic coatings - Electroplated coatings of cadmium with supplementary treatments on iron or steel (ISO 2082:2008)*

EN ISO 2177, *Metallic coatings — Measurement of coating thickness — Coulometric method by anodic dissolution (ISO 2177:2003)*

EN ISO 2178, *Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method (ISO 2178:1982)*

EN ISO 2819, *Metallic coatings on metallic substrates — Electrodeposited and chemically deposited coatings — Review of methods available for testing adhesion (ISO 2819:1980)*

ISO 4520, *Chromate conversion coatings on electroplated zinc and cadmium coatings*

EN ISO 9227, *Corrosion test in artificial atmospheres — Salt spray tests*

ISO 4520, *Chromate conversion coatings on electroplated zinc and cadmium coatings*

3 Purpose of process

This process enables any hydrogen absorption to be avoided.

It ensures protection against corrosion, in particular for steels of $R_m \text{ max.} > 1\,450 \text{ MPa}$. It may be beneficial to tensile bolts of $R_m \text{ max.} > 1\,250 \text{ MPa}$.

4 Limitation of process use

The contact of cadmium-plated parts with titanium, titanium alloys, fuels and fuel line shall be avoided at temperature $< 150 \text{ }^\circ\text{C}$.