

**Lennunduse ja kosmonautika seeria. Kindlaksmääratud  
tõmbetugevusega teraste  $\leq 1450$  MPa, vase,  
vasesulamite ja niklisulamite kaadmumpinnakatted**

Aerospace series - Cadmium plating of steels with specified  
tensile strength  $\leq 1450$  MPa, copper, copper alloys and  
nickel alloys

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 2133:2010 sisaldab Euroopa standardi EN 2133:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.11.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 20.10.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 2133:2010 consists of the English text of the European standard EN 2133:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 20.10.2010.

The standard is available from Estonian standardisation organisation.

ICS 49.040

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English Version

## Aerospace series - Cadmium plating of steels with specified tensile strength $\leq 1\,450$ MPa, copper, copper alloys and nickel alloys

Série aérospatiale - Cadmiage électrolytique des aciers de résistance  $\leq 1\,450$  MPa, du cuivre, des alliages de cuivre et des alliages de nickel

Luft- und Raumfahrt - Kadmieren von Stählen mit einer Zugfestigkeit  $\leq 1\,450$  MPa, von Kupfer, von Kupferlegierungen und von Nickellegierungen

This European Standard was approved by CEN on 30 July 2010.

CEN members are bound to comply with the CEN/CENELEC 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 Management Centre 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 the CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 2133:2010) 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 April 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 2133:1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European standard specifies the electrolytic cadmium plating of parts in steel of tensile strength  $R_m$  (max.)  $\leq 1\,450$  MPa, copper, copper alloys and nickel alloys, whose temperature in service does not exceed 235 °C.

## 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 2831, *Aerospace series — Hydrogen embrittlement of steels — Test by slow bending*

EN 2832, *Aerospace series — Hydrogen embrittlement of steels — Notched specimen test*

EN 9100, *Quality management systems — Requirements for Aviation, Space and Defense Organizations*

EN ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method (ISO 1463:2003)*

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)*

EN ISO 3497, *Metallic coatings — Measurement of coating thickness — X-ray spectrometric methods (ISO 3497:2000)*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227:2006)*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

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

## 3 Purpose of process

To ensure protection against corrosion or to reduce the effects of galvanic coupling when assembling different materials, e.g. steel, aluminium or magnesium.