



NSAI
Standards

Irish Standard
I.S. EN 3228:2010

Aerospace series - Nuts, hexagonal, plain,
reduced height, normal across flats, in
steel, cadmium plated - Classification: 900
MPa
(at ambient temperature) / 235 °C

I.S. EN 3228:2010

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EUROPEAN STANDARD

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English Version

**Aerospace series - Nuts, hexagonal, plain, reduced height,
normal across flats, in steel, cadmium plated - Classification:
900 MPa (at ambient temperature) / 235 °C**

Série aérospatiale - Écrous hexagonaux ordinaires, hauteur
réduite, surplats normaux, en acier, cadmiés -
Classification: 900 MPa (à température ambiante) / 235 °C

Luft- und Raumfahrt - Einfache Sechskantmuttern mit
reduzierter Höhe, normaler Schlüsselweite, aus Stahl,
verkadmet - Klasse: 900 MPa (bei Raumtemperatur) / 235
°C

This European Standard was approved by CEN on 11 December 2009.

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.

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Foreword

This document (EN 3228:2010) 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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

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.

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1 Scope

This standard specifies the characteristics of plain, hexagonal nuts, reduced height, normal across flats, in steel, cadmium plated.

Classification: 900 MPa¹⁾ / 235 °C²⁾.

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 2133, *Aerospace series — Cadmium plating of steels with specified tensile strength $\leq 1\,450$ MPa, copper, copper alloys and nickel alloys*

EN 2205, *Aerospace series — Steel FE-PL1502 (25CrMo4) — 900 MPa $\leq R_m \leq 1\,100$ MPa — Bars — $D_e \leq 40$ mm*

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2438, *Aerospace series — Steel FE-PL2102 (35NiCr6) — 900 MPa $\leq R_m \leq 1\,100$ MPa — Bars — $D_e \leq 40$ mm*

EN 2448, *Aerospace series — Steel FE-PL1503 (35CrMo4) — 900 MPa $\leq R_m \leq 1\,100$ MPa — Bars — $D_e \leq 40$ mm*

EN 3513, *Aerospace series — Steel FE-PL711 — Hardened and tempered — 900 $\leq R_m \leq 1\,100$ MPa — Bar and wire — $D_e \leq 45$ mm³⁾*

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defense Organizations*

TR 3823, *Aerospace series — Materials for plain, slotted and self-locking by plastic ring hexagonal nuts⁴⁾*

ISO 5855-2, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts*

ISO 8788, *Aerospace — Nuts, metric — Tolerances of form and position*

ISO 9139, *Aerospace — Nuts, plain or slotted (castellated) — Procurement specification*

ISO 9609, *Aerospace — Nuts, hexagonal, plain, reduced height, normal across flats, with MJ threads, classifications: 450 MPa (at ambient temperature) /120 °C, 450 MPa (at ambient temperature) /235 °C, 600 MPa (at ambient temperature) /425 °C, 900 MPa (at ambient temperature) /235 °C, 900 MPa (at ambient temperature) /315 °C, 900 MPa (at ambient temperature) /650 °C, 1 100 MPa (at ambient temperature) /235 °C, 1 100 MPa (at ambient temperature) /730 °C and 1 250 MPa (at ambient temperature)/600 °C — Dimensions*

1) Corresponds to strength class of the associated bolt, the 100 % load of which it is able to withstand, when tested at ambient temperature, without breaking or cracking.

2) Maximum temperature that the nut is able to withstand, without permanent alteration to its original characteristics, after ambient temperature has been restored. The maximum temperature is conditioned by the surface treatment.

3) Published as ASD-STAN Prestandard at the date of publication of this standard.

4) Published as ASD-STAN Technical Report at the date of publication of this standard.

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