

5 YfcbUj h\_U!`NU\_cj bY'a UhWZgUa cnUdJfUbYZdfYa ] bYZYbcglfUbg\_YZn`nj fhjbc`nU  
j ]U\_YZ]n`Y`Už\_UXa ]fUbYZa UnUbY`n`AcG&!`?`Ug]Z\_UW`U.`%\$\$`ADU`fUf]  
hYa dYfUi f]`c\_c`jW`Z` )`š7

Aerospace series - Nuts, anchor, self-locking, floating, one lug, with counterbore, in steel, cadmium plated, MoS2 lubricated - Classification: 1110 MPa (at ambient temperature)/235 °C

Luft- und Raumfahrt - Gehäuse-Annietsmuttern, selbstsichernd, beweglich, einseitiger Flansch, mit zylindrischer Aussenkantung, aus Stahl, verkadmet, MoS2 geschmiert - Klasse: 1110 MPa (bei Raumtemperatur)/235 °C

Série aéronautique - Écrous à river, à freinage interne, flottants, simple patte, avec chambrage, en acier cadmiés, lubrifiés MoS2 - Classification: 1110 MPa (à température ambiante)/235 °C

**Ta slovenski standard je istoveten z: EN 2866:2009**

**ICS:**

49.030.30 Matice Nuts

**SIST EN 2866:2010 en,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 2866**

November 2009

ICS 49.030.30

English Version

**Aerospace series - Nuts, anchor, self-locking, floating, one lug,  
with counterbore, in steel, cadmium plated, MoS2 lubricated -  
Classification: 1 110 MPa (at ambient temperature) / 235 °C**

Série aérospatiale - Écrous à river, à freinage interne,  
flottants, simple patte, avec chambrage, en acier, cadmiés,  
lubrifiés MoS2 - Classification : 1 110 MPa (à température  
ambiante) / 235 °C

Luft- und Raumfahrt - Gehäuse-Annietsmuttern,  
selbstsichernd, beweglich, einseitiger Flansch, mit  
zylindrischer Aussenkung, aus Stahl, verkadmet, MoS2-  
geschmiert - Klasse: 1 110 MPa (bei Raumtemperatur)/235  
°C

This European Standard was approved by CEN on 17 October 2009.

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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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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 2866:2009) 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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 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.

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, 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.

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## EN 2866:2009 (E)

## 1 Scope

This European Standard specifies the characteristics of one lug, floating anchor nuts, with counterbore and self-locking feature achieved by forming the upper portion out-of-round, in steel, cadmium plated, MoS<sub>2</sub> lubricated.

Classification: 1 100 MPa <sup>1)</sup> / 315 °C <sup>2)</sup>.

## 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 2424:2008, *Aerospace series — Marking of aerospace products*

EN 2491, *Aerospace series — Molybdenum disulphide dry lubricants — Coating methods*

EN 2542, *Aerospace series — Steel FE-PL1502 (25CrMo4) — Annealed — Bar and wire —  $D_e \leq 40$  mm — For prevailing torque nuts*

EN 2543, *Aerospace series — Steel FE-PL43S — Annealed — Sheet and strip —  $0,3 \leq a \leq 2$  mm — For prevailing torque nuts*

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

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

ISO 3224, *Aerospace — Nuts, anchor, self-locking, floating, single lug, with counterbore, with MJ threads, classifications: 1 100 MPa (at ambient temperature)/ 235 °C, 1 100 MPa (at ambient temperature)/ 315 °C and 1 100 MPa (at ambient temperature)/ 425 °C — Dimensions*

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

ISO 5858, *Aerospace — Nuts, self-locking, with maximum operating temperature less than or equal to 425 °C — Procurement specification*

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

TR 3791, *Aerospace series — Materials for self-locking nuts, threaded inserts and screw thread inserts of temperature classes  $\leq 425$  °C <sup>3)</sup>*

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 Technical Report at the date of publication of this standard.

### 3 Required characteristics

#### 3.1 Configuration — Dimensions — Masses

See Figure 1 and Table 1.

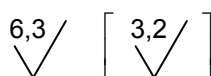
Dimensions and tolerances are in conformity with ISO 3224, expressed in millimetres and apply after cadmium plating but before MoS<sub>2</sub> lubrication.

#### 3.2 Materials

EN 2542, EN 2543 or TR 3791.

#### 3.3 Surface treatment

EN 2133, 5 µm minimum on threads and all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces a continuous cadmium plating shall be present, plus EN 2491, thickness not specified.

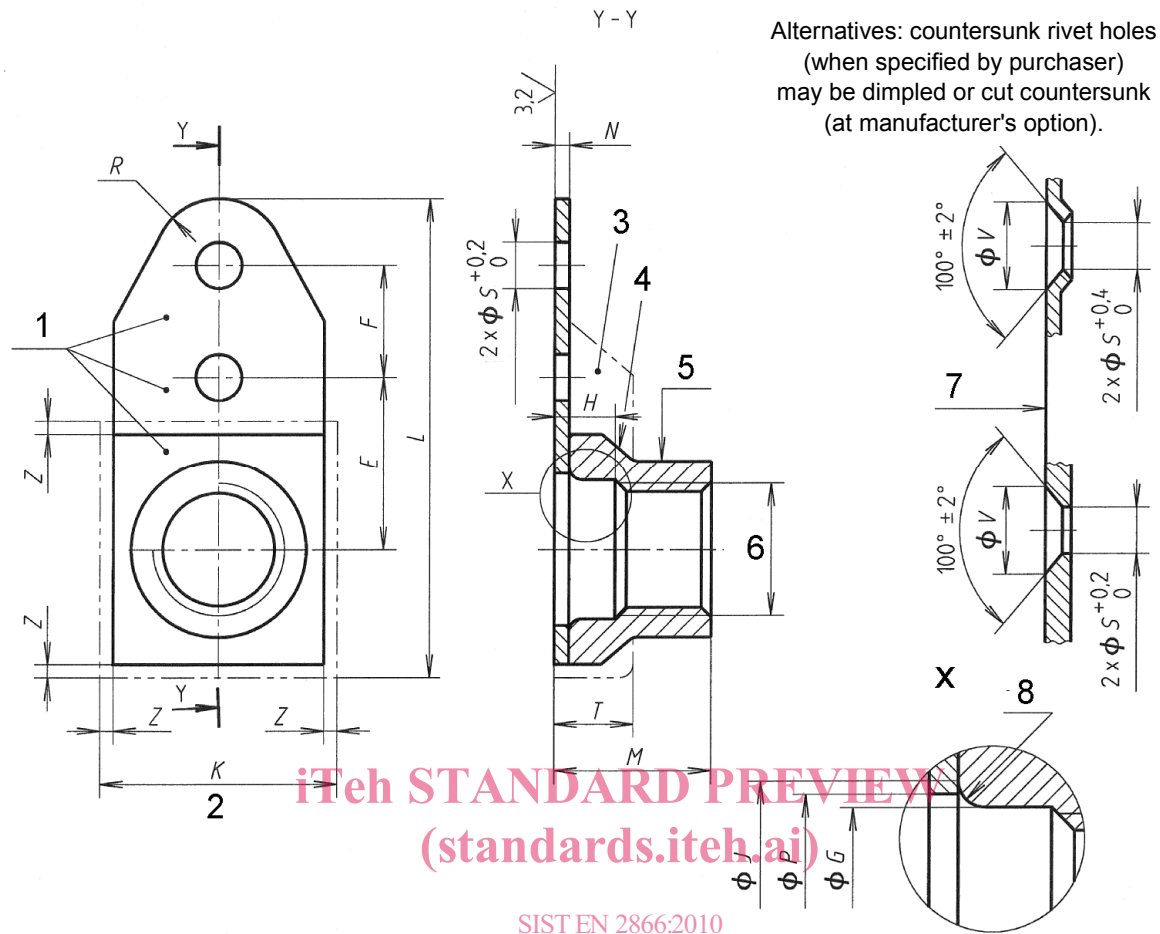

 These values in micrometres apply before surface treatment. The values do not apply to threads and sheared edges the surface texture of which will be achieved by usual manufacturing methods.

Break sharp edges 0,1 to 0,4.

Details of form, not stated, are at the manufacturer's option.

Tolerances of form and position shall be in conformity with ISO 8788.

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### Key

- 1 Marking
- 2 Float inclusive
- 3 Cage
- 4 Threaded element
- 5 Form out-of-round in this area to achieve the self-locking. Tooling marks are permitted in this area.
- 6 Thread
- 7 Bearing face of the nut
- 8 Radius or chamfer

Figure 1