

**Aerospace series
— Nuts, anchor,
self-locking, fixed,
90° corner, with
counterbore, in alloy
steel, cadmium plated,
MoS2 lubricated —
Classification : 1 100
MPa (at ambient
temperature) / 235 °C**

ICS 49.030.30

National foreword

This British Standard is the UK implementation of EN 2862:2009.

The UK participation in its preparation was entrusted to Technical Committee ACE/12, Aerospace fasteners and fastening systems.

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

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English Version

**Aerospace series - Nuts, anchor, self-locking, fixed, 90° corner,
with counterbore, in alloy steel, cadmium plated, MoS₂
lubricated - Classification : 1 100 MPa (at ambient temperature)
/ 235 °C**

Série aérospatiale - Écrous à river, à freinage interne, fixes,
d'angle 90°, avec chambrage, en acier allié, cadmiés,
lubrifiés MoS₂ - Classification : 1 100 MPa (à température
ambiante) / 235 °C

Luft- und Raumfahrt - Anniemuttern, selbstsichernd, 90°
Eckflansch, mit zylindrischer Aussenkung, aus legiertem
Stahl, verkadmet, MoS₂-geschmiert - Klasse : 1 100 MPa
(bei Raumtemperatur / 235 °C)

This European Standard was approved by CEN on 29 September 2009.

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Foreword

This document (EN 2862:2009) 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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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1 Scope

This European Standard specifies the characteristics of 90° corner, counterbored, fixed, anchor nuts, with a self-locking feature achieved by forming the upper portion out-of-round, in alloy steel, cadmium plated, MoS₂ lubricated.

Classification: 1 100 MPa ¹⁾ / 235 °C. ²⁾

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-PL1502 (25CrMo4) — 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 3221, *Aerospace — Nuts, anchor, self-locking, fixed, 90° corner, 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 ≤ 425 °C ³⁾*

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 3221, expressed in millimetres and apply after surface treatment but before MoS₂ lubrication.

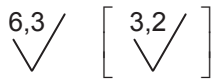
Form and position tolerances shall be in conformity with ISO 8788.

3.2 Materials

EN 2542, EN 2543 or TR 3791.

3.3 Surface treatment

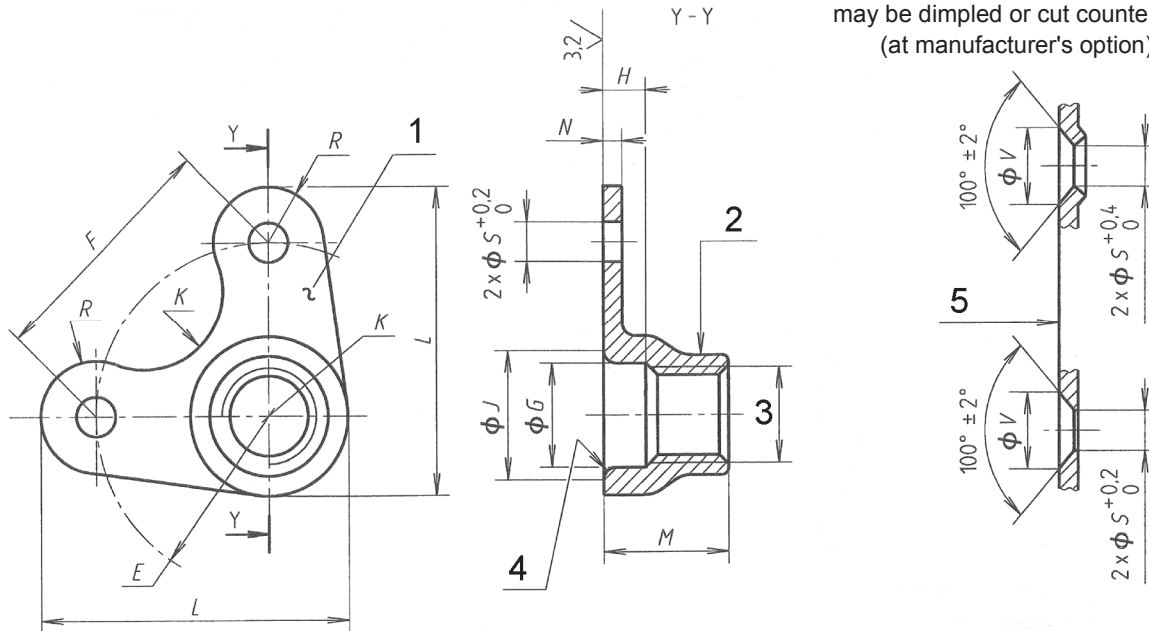
EN 2133, 5 µm minimum on threads and all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces a continuous deposit shall be present, plus EN 2491, thickness not specified.



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

Remove sharp edges 0,1 to 0,4.

Alternatives: countersunk rivet holes (when specified by purchaser) may be dimpled or cut countersunk (at manufacturer's option).



Key

- 1 Marking
- 2 Form out-of-round in this area to achieve self-locking. Tooling marks are permitted in this area.
- 3 Thread
- 4 Radius or chamfer
- 5 Seating plane

Figure 1

Table 1

Diameter code	Thread ^a	E	F	G	H	J ^b	K	L	M	N ^c	R	S	V	Mass kg/1 000 pieces approx.
				min.	min.	max.	max.	max.	max.	max.				
030	MJ3×0,5-4H6H	6	8,5	d	d	4,6	3	11,7	3,2	1	2,5	2,5	4,8	0,5
040	MJ4×0,7-4H6H	8,5	12	4,4	2,2	6,2	4	15,7	5,8		3			1,1
050	MJ5×0,8-4H6H	9,5	13,4	5,5	2,4	7,3	4,5	17,2	6,9		3,5			1,4
060	MJ6×1-4H5H	11	15,6	6,5	2,7	8,7	5	19,7	8,1	1,2	3,5	3	5,7	2,2
080	MJ8×1-4H5H			8,5		10,9	6,5	21,2	9,9	1,5				4,6
100	MJ10×1,25-4H5H	13	18,4	10,5	3	12,9	8,1	25,8	12	1,6	4,5	3,5	6,6	7,8

^a In accordance with ISO 5855-2. In the self-locking zone, the tolerances apply before forming out-of-round.

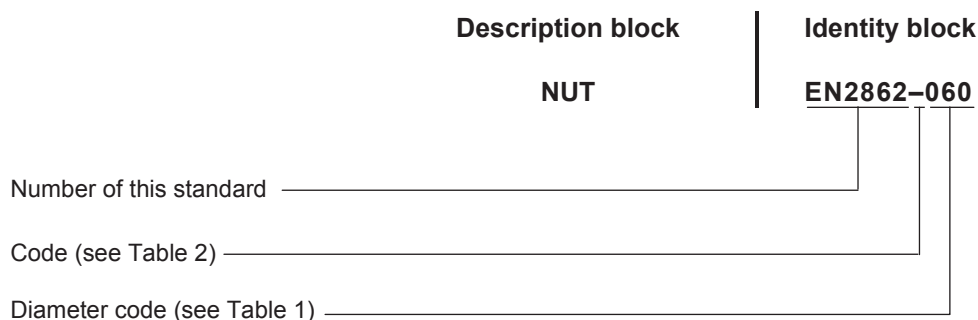
^b Is to sharp corners (chamfered) or point of tangency (radiused).

^c Is applicable at the rivet hole location.

^d Diameter code 030 does not have a counterbore.

4 Designation

EXAMPLE



NOTE If necessary the originator code I9005 should be placed between the description block and the identity block.

Table 2

Option	Code
Plain rivet holes	– (hyphen)
Dimpled or countersunk rivet holes	K

5 Marking

EN 2424:2008, style N. See Figure 1.

6 Technical specification

ISO 5858 except for:

- Approval of manufacturers: see EN 9100;
- Qualification of products: see EN 9133.

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