BS EN 4084:2009

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

ICS 49.030.30

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National foreword

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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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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2010

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ISBN 978 0 580 69811 8

Amendments/corrigenda issued since publication

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4084

November 2009

ICS 49.030.30

English Version

Aerospace series - Nuts, anchor, self-locking, fixed, two lug, 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, double patte, avec chambrage, en acier, cadmiés, lubrifiés MoS2 - Classification: 1 100 MPa (à température ambiente)/235 °C

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

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Foreword

This document (EN 4084:2009) 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of an identical text or by endorsement, at the latest by May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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1 Scope

This European Standard specifies the characteristics of two lug fixed anchor nuts, with counterbore and a self-locking feature achieved by forming the upper portion out-of-round, in alloy steel, cadmium plated, MoS_2 lubricated.

Classification: 1 100 MPa [1] / 235 °C [2].

2 Normative references

EN 2133, *Aerospace series — Cadmium plating of steels with specified tensile strength ≤ 1450 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 ≤ 40 mm — For prevailing torque nuts*

EN 2543, *Aerospace series — Steel FE-PL1502 (25CrMo4) — Annealed — Sheet and strip — 0,3 mm ≤ a ≤ 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 3223, *Aerospace — Nuts, anchor, self-locking, fixed, two 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 ≤ 425 °C* [3]

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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 can withstand without continuous change in its original characteristics, after return to ambient temperature. The maximum temperature is determined by the surface treatment.

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

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3 Required characteristics

3.1 Configuration – Dimensions – Masses

See Figure 1 and Table 1.

Dimensions and tolerances are in conformity with ISO 3223, expressed in millimetres and apply after cadmium plating but before MoS_2 lubrication.

Form and position tolerances shall be in conformity with ISO 8788 and those specified in Table 1.

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.

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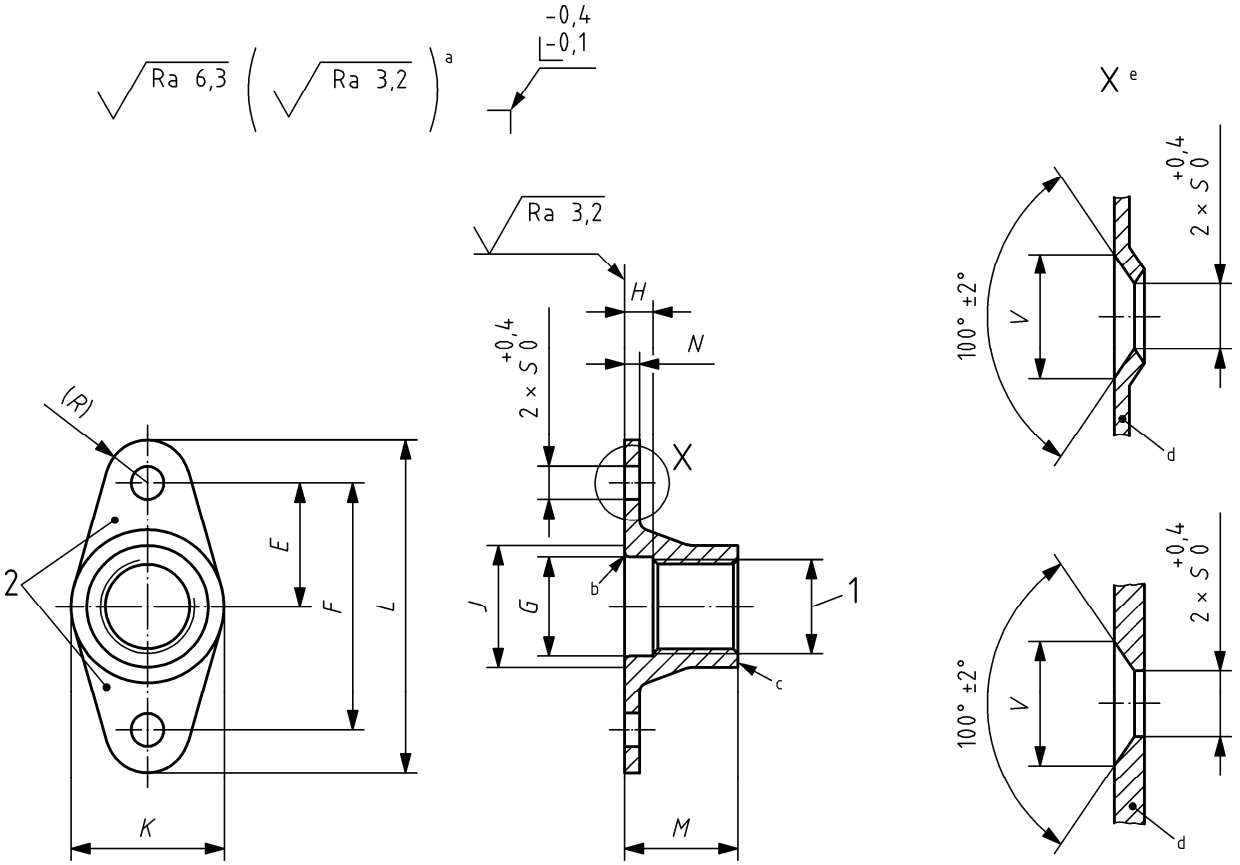
Dimensions in millimetres



Key

1 Thread

2 Marking

3 Seating face

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

b Radius or chamfer

c Form out-of-round in this area to achieve the self- locking. Tooling marks are permitted in this area.

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

e Section on X

Figure 1

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Table 1

Diameter Code	Thread[a]	E	F	G min.	H min.	J[b] max.	K max.	L max.	M max.	N[c] max.	R	S	V ±0,25	Mass kg/1 000 pieces approx.
030	MJ3x0,5-4H6H	6	12	—[d]	—[d]	4,6	6	17,2	3,2	1	2,5	2,5	4,8	0,45
040	MJ4x0,7-4H6H	8,5	17	4,4	2,2	6,2	8	23,2	5,8		3			1,15
050	MJ5x0,8-4H6H	9,5	19	5,5	2,4	7,3	9	25,2	6,9					1,30
060	MJ6x1-4H5H	11	22	6,5	2,7	8,7	10	29,2	8,1	1,2				2,10
080	MJ8x1-4H5H			8,5		10,9	13		9,9	1,5	3,5	3	5,7	4,40
100	MJ10x1,25-4H5H	13	26	10,5	3	12,9	16,2	35,2	12	1,6	4,5	3,5	6,6	7,65

[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.

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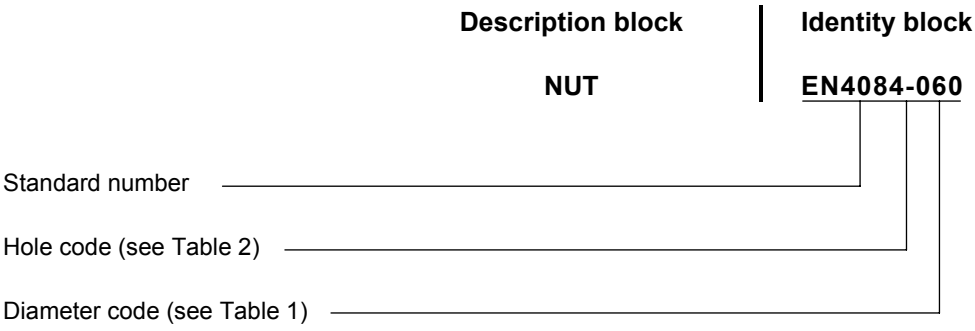
4 Designation

EXAMPLE



NOTE If necessary, the code I9005 shall 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 manufactures: see EN 9100;

— Qualification of products: see EN 9133.

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