BS EN 3768:2012

BSI Standards Publication

Aerospace series — Nuts, anchor, self-locking, one lug, fixed, reduced series, with counterbore, in heat resisting steel, MoS2 lubricated — Classification: 1 100 MPa (at ambient temperature)/315 °C

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National foreword

This British Standard is the UK implementation of EN 3768:2012.

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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EN 3768

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English Version

Aerospace series - Nuts, anchor, self-locking, one lug, fixed, reduced series, with counterbore, in heat resisting steel, MoS2 lubricated - Classification: 1 100 MPa (at ambient temperature)/315 °C

Série aérospatiale - Écrous à river, à freinage interne, fixes, simple patte, série réduite, avec chambrage, en acier résistant à chaud, lubrifiés MoS2 - Classification: 1 100 MPa (à température ambiante)/315 °C

Luft- und Raumfahrt - Annietmuttern, selbstsichernd, einseitiger verkürzter Flansch, mit zylindrischer Aussenkung, aus hochwarmfestem Stahl, MoS2-geschmiert - Klasse: 1 100 MPa (bei Raumtemperatur)/315 °C

This European Standard was approved by CEN on 23 December 2011.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 3768:2012) 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of an identical text or by endorsement, at the latest by September 2012, and conflicting national standards shall be withdrawn at the latest by September 2012.

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1 Scope

This European Standard specifies the characteristics of one lug, reduced series, counterbored fixed anchor nuts, with a self-locking feature achieved by forming the upper portion out-of-round, in heat resisting steel, MoS_2 lubricated.

Classification: 1 100 MPa[1)]/315 °C[2)]

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2398, *Aerospace series — Heat resisting steel FE-PA2601 (X6NiCrTiMoV26-15) — Rm ≥ 900 MPa — Bars for machined bolts — D ≤ 25 mm*

EN 2399, *Aerospace series — Heat resisting steel FE-PA2601 (X4NiCrTiMoV26-15) — Rm ≥ 900 MPa — Bars for forged bolts — D ≤ 25 mm*

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

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

EN 3638, *Aerospace series — Heat resisting alloy FE-PA2601 (X6NiCrTiMoV26-15) — Consumable electrode remelted — Solution and precipitation treated — Sheet, strip and plate - 0,5 mm ≤ a ≤ 10 mm*

EN 3639, *Aerospace series — Heat resisting steel FE-PA92HT cold worked and softened — Bars and wires for continuous cold forging or extrusion of fasteners — 3 mm* $\leq D \leq$ *30 mm —* $R_m \geq$ *900 MPa* [3)]

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*

TR 3791, *Aerospace series — Materials for all metal self-locking nuts and thin wall inserts of temperature classes* $\leq$ *425 °C* [4)]

ISO 3191, *Aerospace — Nuts, anchor, self-locking, fixed, single lug, reduced series, with counterbore, with MJ threads, classifications: 1 100 MPa (at ambient temperature)/235 degrees C, 1 100 MPa (at ambient temperature)/315 degrees C and 1 100 MPa (at ambient temperature)/425 degrees 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 degrees C — Procurement specification*

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

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1) Corresponds to strength class of the associated bolt, the 100 per cent 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) In preparation at the date of publication of this standard.

4) 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 3191, expressed in millimetres and apply before MoS_2 lubrication.

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

3.2 Materials

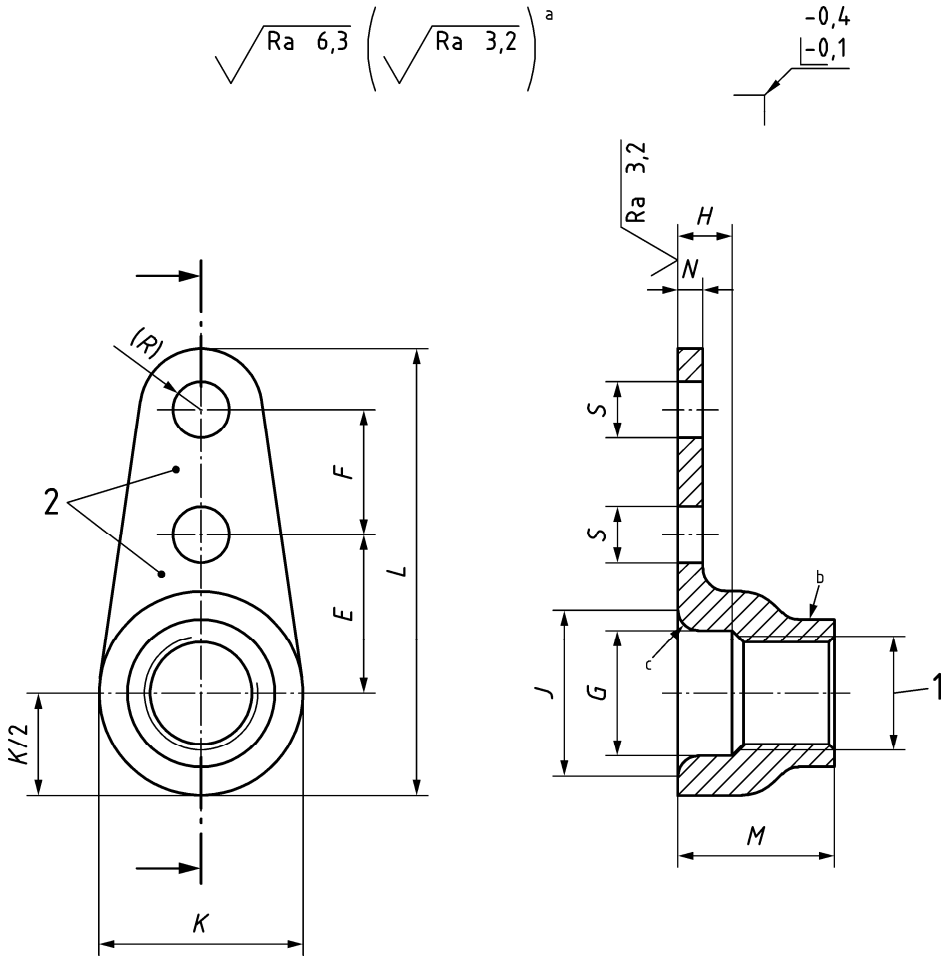
EN 2398, EN 2399, EN 3638, EN 3639 or TR 3791.

3.3 Surface treatment

EN 2491, thickness not specified.

Remove sharp edges 0,1 to 0,4

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



Key

a These values in micrometres apply prior to surface treatment. The values do not apply to threads, punched holes or sheared edges, the surface texture of which will be as achieved by usual manufacturing methods.

b Form out-of-round in this area to achieve the self-locking requirement

Tooling marks are permitted in this area.

c Radius or chamfer

1 Thread

2 Marking

Figure 1

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* +0,2 0	**Mass kg/1000 pieces approx.**
040	MJ4×0,7-4H6H	6	5,5	4,4	2,2	6,2	8	18,2	5,8	1,1	2,5	2,5	1,2
050	MJ5×0,8-4H6H	7		5,5	2,4	7,3	9	19,7	6,9				1,6
060	MJ6×1-4H5H	8		6,5	2,7	8,7	10	21,7	8,1	1,4	3		2,4

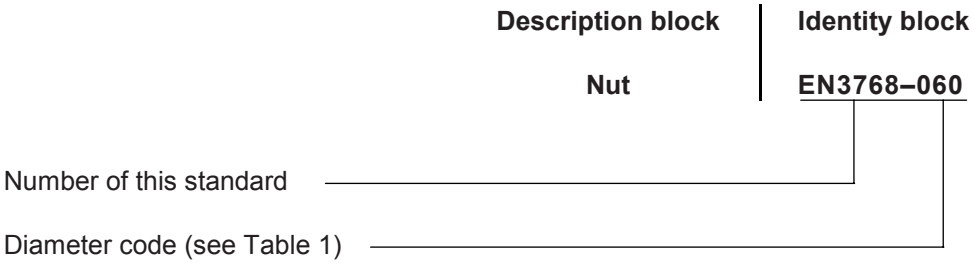
a In accordance with ISO 5855-2. In the self-locking zone, the tolerances apply before forming out-of-round.

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

c Is applicable at the rivet hole location.

4 Designation

EXAMPLE



NOTE If necessary, the originator code 19005 shall be placed between the description block and the identity block.

5 Marking

EN 2424, 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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