BS EN 3843:2010

BSI Standards Publication

Aerospace series — Nuts, bihexagonal, self-locking, with counterbore, in heat resisting steel, passivated — Classification: 1 100 MPa (at ambient temperature) / 650 °C

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National foreword

This British Standard is the UK implementation of EN 3843:2010.

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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Compliance with a British Standard cannot confer immunity from legal obligations.

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EN 3843

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English Version

Aerospace series - Nuts, bihexagonal, self-locking, with counterbore, in heat resisting steel, passivated - Classification: 1 100 MPa (at ambient temperature) / 650 °C

Série aérospatiale - Écrous bihexagonaux, à freinage interne, avec chambrage, en acier résistant à chaud, passivés - Classification : 1 100 MPa (à température ambiante) / 650 °C

Luft- und Raumfahrt - Flache Zwölfkantmuttern, selbstsichernd, mit zylindrischer Aussenkung, aus hochwarmfestem Stahl, passiviert - Klasse: 1 100 MPa (bei Raumtemperatur) / 650 °C

This European Standard was approved by CEN on 30 July 2010.

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Foreword

This document (EN 3843:2010) 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.

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1 Scope

This standard specifies the characteristics of bihexagonal self-locking nuts, with counterbore, in heat resisting steel, passivated.

Classification: 1 100 MPa [1] / 650 °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 2424:2008, *Aerospace series — Marking of aerospace products*

EN 2516, *Aerospace series — Passivation of corrosion resisting steels and decontamination of nickel base alloys*

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 4095, *Aerospace — Bihexagonal drives — Wrenching configuration — Metric series*

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

ISO 8641, *Aerospace — Self-locking nuts with maximum operating temperature greater than 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]

3 Required characteristics

3.1 Configuration – Dimensions – Masses

See Figure 1 and Table 1.

Dimensions and tolerances are expressed in millimetres and apply after surface treatment.

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

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1) Corresponds to the minimum tensile stress which the nut is able to withstand at ambient temperature without breaking or cracking when tested with a bolt of a higher strength class.

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 material.

3) Published as ASD Technical Report at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) (www.asd-stan.org).

3.2 Tolerances of form and position

ISO 8788.

3.3 Materials

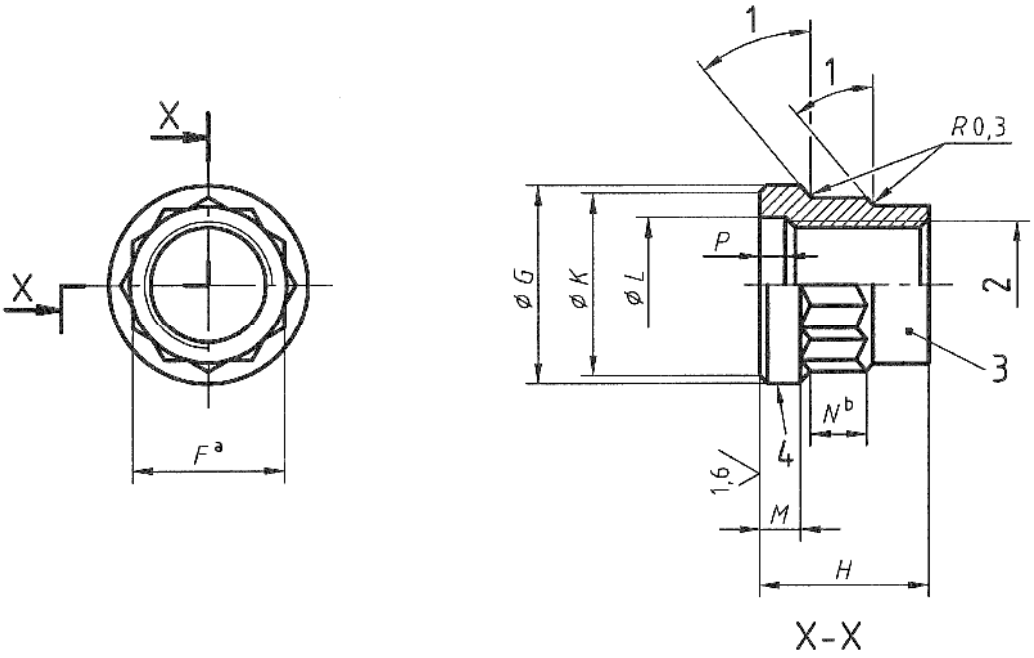
TR 3791, Table 1, temperature class 425 °C.

3.4 Surface treatment

EN 2516, process class appropriate to the material.

6,3 [1,6] These values in micrometres apply before surface treatment. They do not apply to threads the surface texture of which will be as achieved by usual manufacturing methods.

Remove sharp edges 0,1 to 0,4.



Key

1 28° to 50°
2 Thread
3 Form out-of-round in this area to achieve the self-locking torque requirement. Tooling marks are permitted in this area.
4 Marking

a Bihexagonal configuration in accordance with ISO 4095 over length N.
b Wrench pad engagement.

Figure 1

Table 1

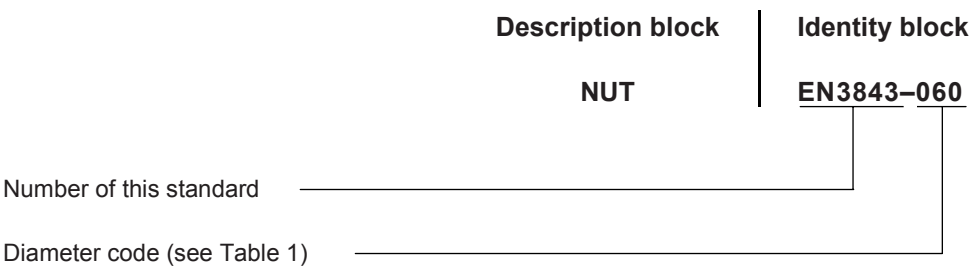
Diameter code	Thread [a]	*F*	*G* max.	*H* max.	*K* min.	*L* min.	*M* min.	*N* min.	*P* min.	Mass [b]
050	MJ5×0,8 – 4H6H	7	9,1	9,4	8,3	5,5	3,6	2	2,4	2,6
060	MJ6×1 – 4H5H	8	10,6	10,8	9,8	6,5	3,9	2,3	2,7	3,4
070	MJ7×1 – 4H5H	9	12,1	11,8	11,3	7,5		2,6		4,8
080	MJ8×1 – 4H5H	10	13,6	13,1	12,8	8,5		2,8		6,4
100	MJ10×1,25 – 4H5H	12	16,8	16	15,8	10,5	4,2	3,1	3	11,0
120	MJ12×1,25 – 4H5H	14	19,9	18	18,8	12,5	4,4	3,5		16,5
140	MJ14×1,5 – 4H5H	17	23	20,7	21,9	14,5	4,9	4	3,2	30,0
160	MJ16×1,5 – 4H5H	19	26	23,2	24,9	16,5	5,1	4,7		37,0
180	MJ18×1,5 – 4H5H	22	29,1	25,7	28	18,5	5,3	5,6		50,0
200	MJ20×1,5 – 4H5H	24	32,3	28,2	31,2	20,5	5,5	6,8		65,0
220	MJ22×1,5 – 4H5H	27	35,4	30,7	34,3	22,5	5,7	8,3		80,0
240	MJ24×2 – 4H5H	30	38	33,7	36,9	24,5	6,4	10,1	3,7	99,0

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

[b] Approximate values (kg/1 000 pieces), given for information purposes only.

4 Designation

EXAMPLE



NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

5 Marking

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

6 Technical specification

ISO 8641, except for:

— Approval of manufacturers: see EN 9100;

— Qualification of products: see EN 9133.

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