BS EN 3653:2010

Aerospace series — Nuts, anchor, self-locking, floating, self-aligning, one lug, in steel, cadmium plated, MoS_2 lubricated — Classification: 900 MPa (at ambient temperature) / 235 °C

ICS 49.030.30

National foreword

This British Standard is the UK implementation of EN 3653:2010.

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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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2010

ISBN 978 0 580 70529 8

Amendments/corrigenda issued since publication

Date	Comments

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3653

January 2010

ICS 49.030.30

English Version

Aerospace series - Nuts, anchor, self-locking, floating, self-aligning, one lug, in steel, cadmium plated, MoS_2 lubricated - Classification: 900 MPa (at ambient temperature) / 235 °C

Série aérospatiale - Écrous à river, à freinage interne, flottants, orientables, simple patte, en acier, cadmiés, lubrifiés MoS_2 - Classification: 900 MPa (à température ambiante) / 235 °C

Luft- und Raumfahrt - Annietmuttern, selbstsichernd, schwenkbar, einstellbar, einseitiger Flansch, aus Stahl, verkadmet, MoS_2-geschmiert - Klasse : 900 MPa (bei Raumtemperatur) / 235 °C

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 3653:2010: E

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Foreword

This document (EN 3653:2010) 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.

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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

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1 Scope

This standard specifies the characteristics of one lug, floating, self-aligning anchor nuts with a self-locking feature achieved by forming the upper portion out of round, in steel, cadmium plated, MoS_2 lubricated.

Classification: 900 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 ≤ 1 450 MPa, copper, copper alloys and nickel alloys*

EN 2424, *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 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*

TR 3791, *Aerospace series — Materials for self-locking nuts, threaded inserts and screw thread inserts of temperature classes ≤ 425 °C*[3]

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*

3 Required characteristics

3.1 Configuration — Dimensions — Masses

See Figure 1 and Table 1.

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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 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.

Dimensions and tolerances are expressed in millimetres and apply after cadmium plating but before MoS_2 lubrication.

3.2 Materials

EN 2542, EN 2543 or TR 3791.

3.3 Surface treatment

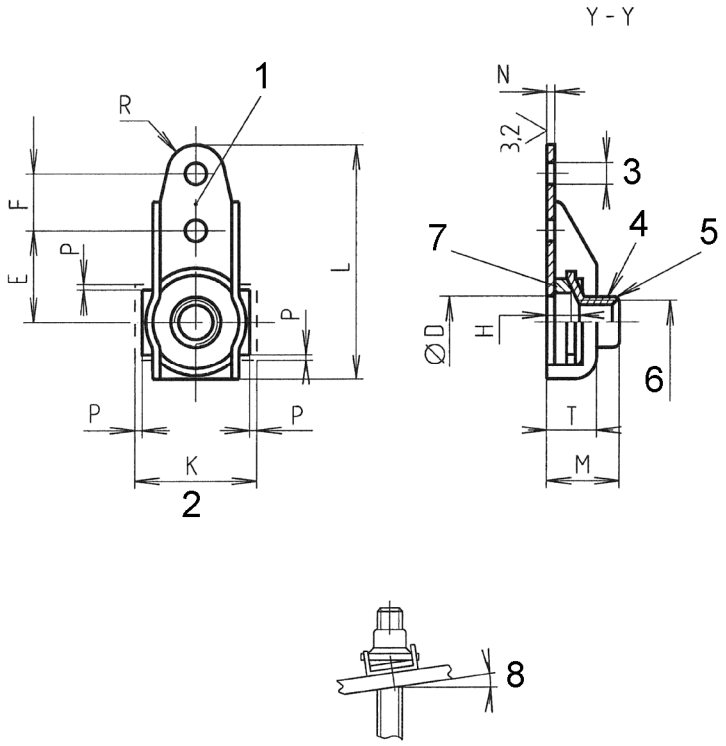
EN 2133, 5 µm minimum on threads and all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces a continuous cadmium plating shall be present, plus EN 2491, thickness not specified.

6,3 [3,2] 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.

Remove 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 conformity with ISO 8788.



Key

1 Marking
2 Float included
3 Two holes Ø *J*
4 Threaded element
5 Form out of round in this area to achieve the self-locking torque requirement. Tolling marks are permitted in this area.
6 Thread
7 Convex washer
8 8° min. any direction

Figure 1

Table 1

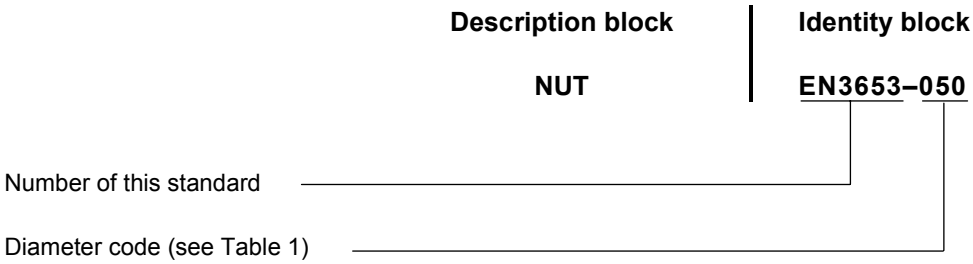
Diameter code	**Thread** [a]	*D* min.	*E*	*F*	*H* min.	*J* $^{+0,2}_{0}$	*K* max.	*L* max.	*M* max.	*N* [b] max.	**Radial float** *P* min.	*R* max.	*T* max	**Mass** kg/1 000 pieces approx.
050	MJ5×0,8-4H6H	6,7	8,75	7,9	3,5	2,5	15,2	26,7	8,3	0,9	0,7	3,5	7,2	2,6
060	MJ6×1-4H5H	7,6	12,7		4		17	31,7	10,2			4	7,8	5,7
080	MJ8×1-4H5H	11			5	3	20,5	33,3	11,8	1,1	0,75		8,4	9,9

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

[b] Is applicable at the rivet hole location.

4 Designation

EXAMPLE



NOTE If necessary the originator code I9005 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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