BS EN 4443:2012

BSI Standards Publication

Aerospace series — Nuts, elliptical clinch, self-locking, MJ threads, in heat resisting steel FE-PA2601 (A286), MoS2 coated, Classification: 900 MPa (at ambient temperature)/ 425 °C

bsi.

...making excellence a habit.™

National foreword

This British Standard is the UK implementation of EN 4443:2012.

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.

Published by BSI Standards Limited 2012

ISBN 978 0 580 75714 3

ICS 49.030.30

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2012.

Amendments issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4443

March 2012

ICS 49.030.30

English Version

Aerospace series - Nuts, elliptical clinch, self-locking, MJ threads, in heat resisting steel FE-PA2601 (A286), MoS2 coated, Classification: 900 MPa (at ambient temperature)/ 425 °C

Série aérospatiale - Écrous à tête elliptique, à freinage interne, filetage MJ, an acier résistant à chaud FE-PA2601 (A286), revêtus MoS2, Classification: 900 MPa (à température ambiante)/ 425 °C

Luft- und Raumfahrt - Einnietmutter, blind, elliptischer Kopf, selbstsichernd, MJ-Gewinde, aus hochwarmfestem Stahl FE-PA2601 (A286), MoS2 beschichtet, Klasse: 900 MPa (bei Raumtemperatur)/ 425 °C

This European Standard was approved by CEN on 24 September 2011.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 4443:2012: E

Contents

Foreword

This document (EN 4443:2012) 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies characteristics of self-locking elliptical clinch nuts with MJ threads in FE-PA2601, MoS_2 coated, for aerospace applications.

Classification: 900 MPa [1] / 425 °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 2399, *Aerospace series — Heat resisting steel FE-PA2601 (X4NiCrTiMoV26-15) — $R_m \geq 900$ MPa — Bars for forged bolts — $D \leq 25$ mm*

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

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

EN 3639, *Aerospace series — Heat resisting alloy FE-PA2601 — Softened and cold worked — Wire for forged fasteners — $D \leq 15$ mm — 900 MPa $\leq R_m \leq$ 1 100 MPa*

EN 4444, *Aerospace series — Nuts, elliptical clinch, self-locking, in heat resisting steel FE-PA2601 (A286), MoS2 coated — Classification: 900 MPa (at ambient temperature)/ 425 °C — Technical specification* [3]

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

3 Required characteristics

3.1 Configuration — Dimensions — Tolerances — Masses

See figure 1 and tables 1 and 2.

Dimensions and tolerances are in millimetres. They apply before MoS_2 coating.

3.2 Materials

EN 2399 or EN 3639

3.3 Surface treatment

EN 2491

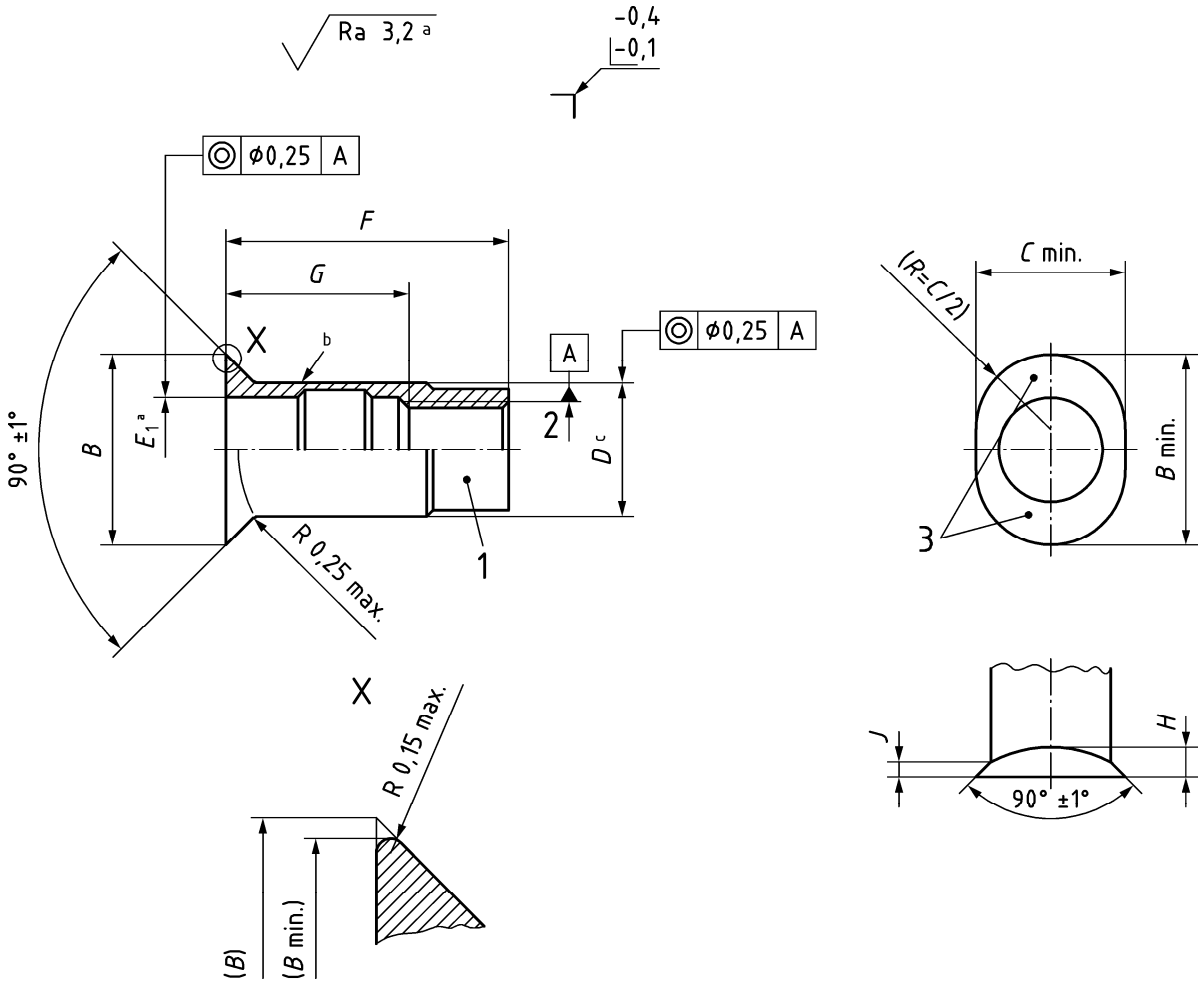
---

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 test temperature of the parts.

3) Published as ASD-STAN standard at the date of publication of the present standard.

Values apply before MoS2 coating. Thread surface will be as achieved by normal methods of manufacture.



Key

1 Form out-of-round in this area to achieve the self-locking requirement (tooling marks permissible).
2 Thread
3 Marking
a Tapping marks are accepted in the E_1 diameter.
b 0,01 underhead swelling is accepted over a length less than ¼ of diameter D.
c Tolerance $^{-0,02}_{-0,07}$ on diameter D is applicable only on the nominal grip length.

Details of form not stated are left to the manufacturer's discretion.

Figure 1

Table 1

Dimensions in millimetres

Thread [a]		*B*		*C*		*D*	E_1	*H*	*J*
Code	**Designation**	$^{+0,15}_{0}$	min.	$^{+0,15}_{0}$	min.	$^{-0,02}_{-0,07}$	$^{0}_{-0,1}$	Ref.	Ref.
050	MJ5×0,8 – 4H6H	9,25	8,95	7,80	7,55	6,40	5,25	1,50	0,75
060	MJ6×1 – 4H5H	11,45	11,15	9,70	9,45	8,00	6,25	1,80	0,90
070	MJ7×1 – 4H5H	12,85	12,55	10,90	10,65	9,00	7,25	2,00	1,00
080	MJ8×1 – 4H5H	14,25	13,95	12,10	11,85	10,00	8,25	2,20	1,10

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

Table 2

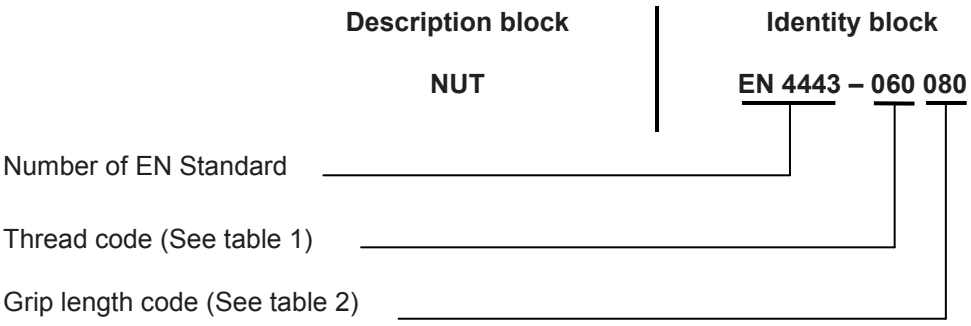
Dimensions in millimetres

Grip length		**Thread code**																			
Code	**nominal**	050					060					070					080				
		Grip length		*F*	*G*	**Mass** [a]	**Grip length**		*F*	*G*	**Mass** [a]	**Grip length**		*F*	*G*	**Mass** [a]	**Grip length**		*F*	*G*	**Mass** [a]
		max.	min.	± 0,35	± 0,20		max.	min.	± 0,35	± 0,20		max.	min.	± 0,35	± 0,20		max.	min.	± 0,35	± 0,20	
030	3	3,50	2,00	11,80	5,60	1,20	3,50	2,00	13,80	7,80	2,33	–	–	–	–	–	–	–	–	–	–
040	4	4,75	3,25	12,80	6,70	1,29	4,75	3,25	15,00	9,00	2,49	4,75	3,25	16,30	9,40	3,28	4,75	3,25	18,00	9,80	4,01
050	5	5,75	4,25	13,80	7,70	1,38	5,75	4,25	16,00	10,00	2,65	5,75	4,25	17,30	10,40	3,47	5,75	4,25	19,00	10,80	4,22
060	6	6,75	5,25	14,80	8,70	1,46	6,75	5,25	17,00	11,00	2,82	6,75	5,25	18,30	11,40	3,65	6,75	5,25	20,00	11,80	4,43
070	7	7,75	6,25	15,80	9,70	1,55	7,75	6,25	18,00	12,00	2,98	7,75	6,25	19,30	12,40	3,84	7,75	6,25	21,00	12,80	4,64
080	8	8,75	7,25	16,80	10,70	1,64	8,75	7,25	19,00	13,00	3,14	8,75	7,25	20,30	13,40	4,02	8,75	7,25	22,00	13,80	4,85
090	9	9,75	8,25	17,80	11,70	1,73	9,75	8,25	20,00	14,00	3,30	9,75	8,25	21,30	14,40	4,20	9,75	8,25	23,00	14,80	5,06
100	10	10,75	9,25	18,80	12,70	1,82	10,75	9,25	21,00	15,00	3,46	10,75	9,25	22,30	15,40	4,39	10,75	9,25	24,00	15,80	5,27

[a] Mass ≈ quoted in kg/1 000 parts.

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 A, as indicated on figure 1.

6 Technical specification

EN 4444

This page deliberately left blank

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards -based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email bsmusales@bsigroup.com.

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Copyright

Useful Contacts:

Customer Services
Tel: +44 845 086 9001
Email (orders): orders@bsigroup.com
Email (enquiries): cservices@bsigroup.com

Subscriptions
Tel: +44 845 086 9001
Email: subscriptions@bsigroup.com

Knowledge Centre
Tel: +44 20 8996 7004
Email: knowledgecentre@bsigroup.com

Copyright & Licensing
Tel: +44 20 8996 7070
Email: copyright@bsigroup.com

bsi.

...making excellence a habit.™