BS EN 4634:2009

Aerospace series — Screws, 100° countersunk head, six lobe recess, short thread, in heat resisting steel FE-PA2601 (A286), passivated — Classification: 900 MPa (at ambient temperature) / 650° C

ICS 49.030.20

National foreword

This British Standard is the UK implementation of EN 4634:2009.

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.

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 28 February 2010.

ISBN 978 0 580 56457 4

Amendments/corrigenda issued since publication

Date	Comments

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4634

July 2009

ICS 49.030.20

English Version

Aerospace series - Screws, 100° countersunk head, six lobe recess, short thread, in heat resisting steel FE-PA2601 (A286), passivated - Classification: 900 MPa (at ambient temperature) / 650 °C

Série aérospatiale - Vis, 100° à tête fraisée, à filetage court, à empreinte six lobes, en acier résistant à chaud FE-PA2601 (A286), passivées - Classification : 900 Mpa (à température ambiante) / 650 °C

Luft- und Raumfahrt – 100° Senkschrauben, kurzes Gewinde, Sechs-Bogenzahn, aus hochwarmfester Stahl FE-PA2601 (A286), passiviert - Klasse: 900 MPa (bei Raumtemperatur) / 650 °C

This European Standard was approved by CEN on 12 March 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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 and United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 4634:2009: E

Contents

Page

Foreword

This document (EN 4634:2009) 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 January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

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, 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 and the United Kingdom.

1 Scope

This standard specifies the characteristics of screws with 100° countersunk head, with six lobes recess, short thread, in heat resisting steel FE-PA2601, passivated, for aerospace applications.

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.

ISO 3353-1, *Aerospace — Lead and runout threads — Part 1: Rolled external threads.*

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

ISO 7913, *Aerospace — Bolts and screws, metric — Tolerances of form and position.*

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

EN 2576, *Aerospace series — Bolts in heat resisting steel FE-PA92HT (A286) — Classification: 900 MPa/650 °C — Technical specification.* [1)]

EN 3639, *Aerospace series — Heat resisting alloy FE-PA2601 — Softened and cold worked — Wire for forged fasteners — D ≤ 15 mm - 900 MPa ≤ R_m ≤ 1100 MPa.* [1)]

EN 3911, *Aerospace series — Six lobe recess — Geometrical definition*. [1)]

TR 3775, *Aerospace series — Bolts and pins — Materials*. [2)]

3 Required characteristics

3.1 Configuration – Dimensions – Tolerances – Masses

See Figure 1 and Table 1.

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

3.2 Materials

EN 2399, EN 3639, TR 3775

1) Published as ASD Prestandard at the date of publication of this standard.

2) Published as ASD Technical Report at the date of publication of this standard.

3.3 Surface treatment

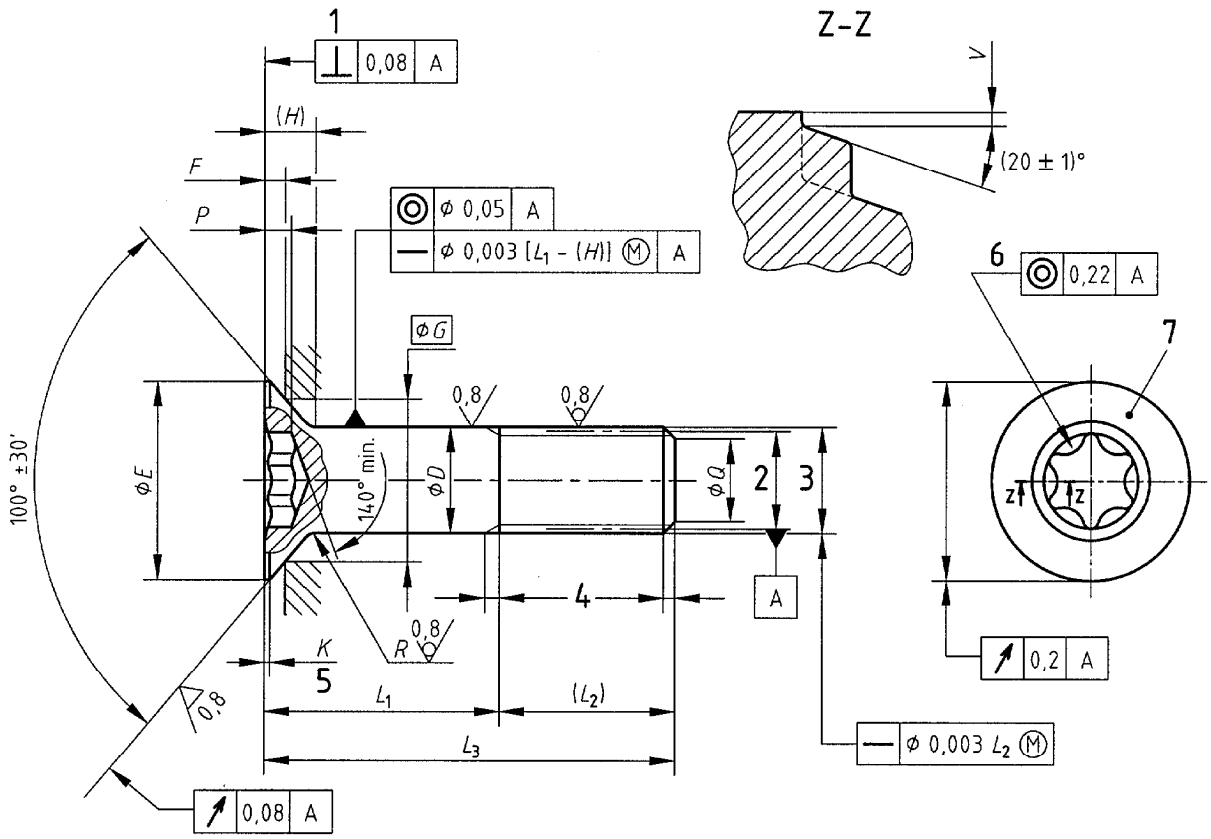
EN 2516

3.4 Tolerances of form and position

ISO 7913

3,2 [0,8] Values in micrometres apply prior to surface treatment.

Remove sharp edges 0,1 to 0,4.



Key

1 Not concave
2 Pitch diameter
3 Thread
4 Conforms to ISO 3353-1
5 The rounded angle accepted
6 Six lobe recess conforms to EN 3911
7 Marking

Figure 1

Table 1

Thread		D	$\varnothing E$	F	G	H	K	$L_1 \pm 0{,}2$		L_2
Code	**Designation**	h12	min.	$^{0}_{-0{,}08}$	Ref.	Ref.	min.	**Length code**	min.	
030	MJ3×0,5-4h6h	3	5,6	0,63	4,50	1,3	0,06	003 to 030	3	6
040	MJ4×0,7-4h6h	4	7,5	0,93	5,78	1,7	0,08	003 to 040	3	7,5
050	MJ5×0,8-4h6h	5	9,5	0,96	7,71	2,1	0,1	004 to 050	4	9
060	MJ6×1-4h6h	6	11,5	1,26	9,00	2,6	0,1	005 to 060	5	10
080	MJ8×1-4h6h	8	15,4	1,60	12,21	3,4	0,1	006 to 080	6	11,5
100	MJ10×1,25-4h6h	10	19,3	1,93	15,43	4,2	0,1	008 to 100	8	14,5
120	MJ12×1,25-4h6h	12	23	2,53	18,00	5	0,1	010 to 100	10	16

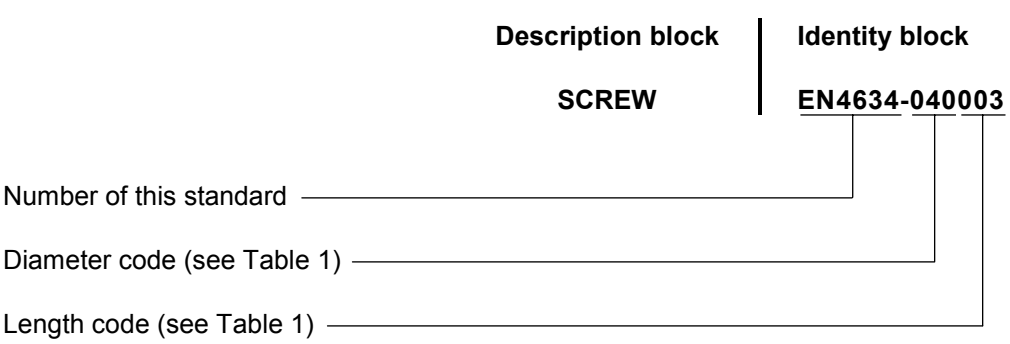
Thread [a]		P		Q		R		V	Recess code [b]
Code	**Designation**	nom.	Tol.	nom.	Tol.	max.	min.	mm	
030	MJ3×0,5-4h6h	0,8	$^{0}_{-0{,}1}$	2,3	$^{0}_{-0{,}5}$	0,4	0,2	0,13	EN3911-09
040	MJ4×0,7-4h6h	1		2,9					EN3911-15
050	MJ5×0,8-4h6h	1,1	$^{0}_{-0{,}2}$	3,8	± 0,5			0,25	EN3911-20
060	MJ6×1-4h6h	1,5		4,5		0,5	0,3		EN3911-27
080	MJ8×1-4h6h	2	$^{0}_{-0{,}3}$	6,2		0,7	0,5		EN3911-40
100	MJ10×1,25-4h6h	2,3	$^{0}_{-0{,}5}$	7,9		0,7	0,5		EN3911-45
120	MJ12×1,25-4h6h	2,8		9,9		0,8	0,6		EN3911-50

[a] Conforms to ISO 5855-2.

[b] See EN 3911.

4 Designation

EXAMPLE



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

5 Marking

See Table 2 and Figure 1.

Table 2

Diameter code	EN 2424 Style
030 to 050	F
060 to 120	C + MJ

6 Technical specification

EN 2576

BSI - British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001. Fax: +44 (0)20 8996 7001 Email: orders@bsigroup.com You may also buy directly using a debit/credit card from the BSI Shop on the Website http://www.bsigroup.com/shop

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact Information Centre. Tel: +44 (0)20 8996 7111 Fax: +44 (0)20 8996 7048 Email: info@bsigroup.com

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: +44 (0)20 8996 7002 Fax: +44 (0)20 8996 7001 Email: membership@bsigroup.com

Information regarding online access to British Standards via British Standards Online can be found at http://www.bsigroup.com/BSOL

Further information about BSI is available on the BSI website at http://www.bsigroup.com.

Copyright

BSI Group
Headquarters 389
Chiswick High Road,
London, W4 4AL, UK
Tel +44 (0)20 8996 9001
Fax +44 (0)20 8996 7001
www.bsigroup.com/
standards