SLOVENSKI STANDARD
SIST EN 4161:2020

01-januar-2020

Nadomešča:
SIST EN 4161:2010
SIST EN 4161:2010/AC:2010

Aeronavtika - Vijaki, valjasta glava, križna zareza, široka toleranca, dolg navoj, iz legiranega jekla, kadmirani - Klasifikacija: 1100 MPa (pri temperaturi okolice)/235 °C

Aerospace series - Screws, pan head, offset cruciform recess, coarse tolerance normal shank, long thread, in alloy steel, cadmium plated - Classification : 1 100 PMa (at ambient temperature) / 235 °C

Luft- und Raumfahrt - Flachkopfschrauben, mit Flügelkreuzschlitz, langes Gewinde, aus legiertem Stahl, verkadmet - Klasse : 1 100 MPa (bei Raumtemperatur) / 235 °C

Série aérospatiale - Vis à tête cylindrique, à empreinte cruciforme déportée, tige normale à tolérance large, filetage long, en acier allié, cadmiées - Classification : 1 100 MPa (à température ambiante) / 235 °C

Ta slovenski standard je istoveten z: **EN 4161:2019**

ICS:

49.030.20 Sorniki, vijaki, stebelni vijaki Bolts, screws, studs

SIST EN 4161:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4161

October 2019

ICS 49.030.20

Supersedes EN 4161:2009

English Version

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Série aérospatiale - Vis à tête cylindrique, à empreinte cruciforme déportée, tige normale à tolérance large, filetage long, en acier allié, cadmiées - Classification : 1 100 MPa (à température ambiante)/235 °C

Luft- und Raumfahrt - Flachkopfschrauben, mit Flügelkreuzschlitz, grobe Schafttoleranz, langes Gewinde, aus legiertem Stahl, verkadmet - Klasse: 1 100 MPa (bei Raumtemperatur)/235 °C

This European Standard was approved by CEN on 1 March 2019.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (EN 4161:2019) 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 April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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

This document supersedes EN 4161:2009, EN 4161/AC:2010.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European standard specifies the characteristics of screws, pan head, offset cruciform recess, coarse tolerance normal shank, long thread, in alloy steel, cadmium plated, for aerospace applications.

Classification: 1 100 MPa[1]/235 °C[2].

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2137, *Aerospace series — Steel FE-PL75 — 1 100 MPa ≤ R_m ≤ 1 250 MPa — Bars — D_e ≤ 100 mm*

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

EN 2442, *Steel FE-PL711 — 1 100 MPa ≤ R_m ≤ 1 300 MPa — Bars and wires — D_e ≤ 25 mm*

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 7689, *Aerospace — Bolts, with MJ threads, made of alloy steel, strength class 1 100 MPa — Procurement specification*

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

ISO 14275, *Aerospace — Drives, internal, offset cruciform, ribbed — Metric series*

ISO 14276, *Aerospace — Drives, internal, offset cruciform — Metric series*

ASD-STAN/TR 3775, *Aerospace series — Bolts and pins — Materials*[3]

1 Minimum tensile strength of the material at ambient temperature.

2 Maximum temperature that the screw can withstand without continuous change in its original characteristics, after return to ambient temperature. The maximum temperature is determined by the surface treatment.

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

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Required characteristics

4.1 Configuration — Dimensions — Masses

Shall be in accordance with Figure 1 and Table 1.

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

4.2 Tolerances of form and position

Shall be in accordance with ISO 7913.

4.3 Materials

Shall be in accordance with EN 2137 and EN 2442

or

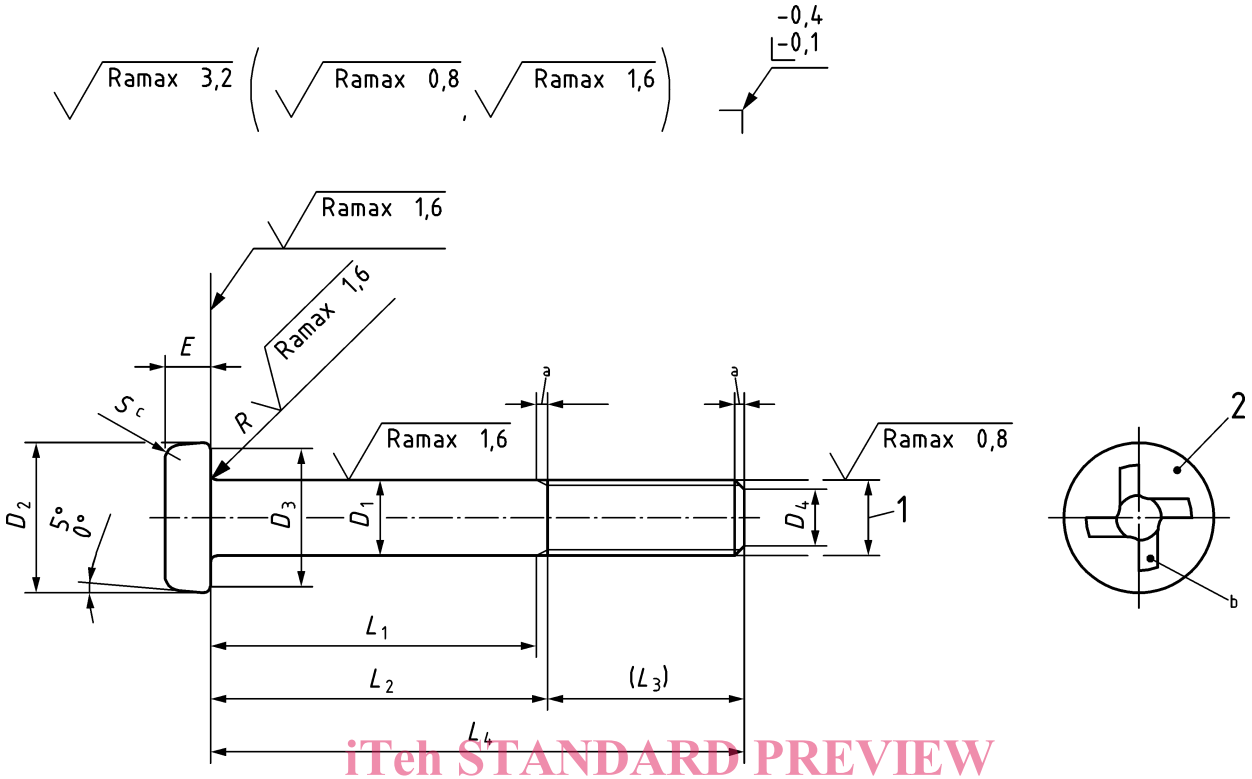
ASD-STAN/TR 3775 (alloy steel, classification 1 100 MPa).

4.4 Surface treatment

According to EN 2133, 8 µm to 14 µm, on all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces, a continuous deposit shall be present, but no value is specified.

Black colour option: code B.

Dimensions in millimetres



Key

1 Thread

2 Marking

a According to ISO 3353-1

b Drive

c Shape optional

Figure 1 — Screw design

Table 1 — Requirements for dimensions and masses

Dia-meter code	Threads[a]	D_1 h12	D_2 0 −0,3	D_3	D_4		E		L_1[b, c, d]	L_2[b, c, d]	L_3	$L_4 \pm 0{,}3$[d, e]		R		S		**Mass**[f]	
				min.	nom.	Tol.	nom.	Tol.	min.	max.		Length code	nom.	nom.	Tol.	max.	min.	g	h
030	MJ3 × 0,5 − 4h6h	3	6	4,7	2,3	0 −0,5	1,8	0 −0,2	0,4	2	12	014 to 042	14 to 42	0,4	0 −0,2	1,2	0,3	0,979	0,110
040	MJ4 × 0,7 − 4h6h	4	8	6,7	3,0		2,4				14	016 to 056	16 to 56			1,6	0,4	2,242	0,198
050	MJ5 × 0,8 − 4h6h	5	10	8,7	3,4	±0,5	3,0	0 −0,3	0,5	4	16	020 to 070	20 to 70	0,5		2,0	0,5	4,528	0,306
060	MJ6 × 1 − 4h6h	6	12	10,7	4,2		3,6		0,7		18	022 to 084	22 to 84	0,7		2,4	0,6	7,457	0,444
070	MJ7 × 1 − 4h6h	7	14	12,7	5,2		4,2				20	024 to 098	24 to 98			2,8	0,7	12,095	0,604
080	MJ8 × 1 − 4h6h	8	16	14,7	6,2		4,8				22	026 to 112	26 to 112			3,2	0,8	16,923	0,790
100	MJ10 × 1,25 − 4h6h	10	20	18,7	7,9		6,0		0,8	6	26	032 to 140	32 to 140	0,8		4,0	1,0	33,023	1,232
120	MJ12 × 1,25 − 4h6h	12	24	22,7	9,8		7,2		0,9		30	036 to 168	36 to 168	0,9	0 −0,3	4,8	1,2	57,123	1,774

[a] In accordance with ISO 5855-2.

[b] First length corresponding to first L_4 length.

[c] Condition L_1 min. and L_2 max. cannot be obtained simultaneously.

[d] Increments:
2 for $L_4 < 100$;
4 for $L_4 > 100$.

[e] If greater lengths are required, they shall be chosen using the above increments. The length code corresponds to the length L_4, completed by one or two zeros to the left, where necessary, to obtain a three digit code.

[f] Approximate values (kg/1 000 pieces), calculated on the basis of 7,85 kg/dm^3, given for information purposes only.

[g] Value for head and first L_4.

[h] Increase for each additional 2 mm of L_4.