



SLOVENSKI STANDARD

oSIST prEN 4073:2023

01-september-2023

Nadomešča:

SIST EN 4073:2016

Aeronavtika - Vijaki, valjasta glava, šestzoba vdolbina, široka toleranca, srednja navojna dolžina, iz legiranega jekla, kadmirani - Klasifikacija: 1100 MPa (pri temperaturi okolice)/235 °C

Aerospace series - Screws, pan head, hexalobular recess, coarse tolerance shank, medium length thread, in alloy steel, cadmium plated - Classification: 1 100 MPa (at ambient temperature) / 235 °C

Luft- und Raumfahrt - Flachkopfschraube, mit Innensechsrund, mit mittlerer Gewindelänge, aus legiertem Stahl, verkadmet - Klasse: 1 100 MPa (bei Raumtemperatur) / 235 °C

Série aérospatiale - Vis à tête cylindrique, à empreinte six lobes, tige a tolérance large, filetage moyen, en acier allié, cadmiées - Classification: 1 100 MPa (à température ambiante) / 235 °C

Ta slovenski standard je istoveten z: prEN 4073

ICS:

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 4073

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ICS 49.030.20

Will supersede EN 4073:2016

English Version

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coarse tolerance shank, medium length thread, in alloy
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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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

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<https://standards.iteh.ai/catalog/standards/sist/12414387-8a8e-4a49-bad8-4cad87eeecd7/osist-pren-4073-2023>

European foreword

This document (prEN 4073:2023) 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 document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 4073:2016.

The main changes compared to the previous edition are as follows:

- a) Normative references updated;
- b) Section 3 “Terms and definitions” added;
- c) Figure 1 corrected;
- d) Table 1 Footnote added;
- e) Annex A has been removed;
- f) Bibliography updated;
- g) Document editorially revised.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

prEN 4073:2023 (E)**1 Scope**

This document specifies the characteristics of screws, pan head, six lobe recess, coarse tolerance shank, medium length thread, in alloy steel, cadmium plated.

Classification: 1 100 MPa¹ / 235 °C².

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 2133, *Aerospace series - Cadmium plating of steels with specified tensile strength $\leq 1\,450$ MPa, copper, copper alloys and nickel alloys*

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

EN 3911, *Aerospace series - Six lobe recess - Geometrical definition*

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*

TR 3775, *Aerospace series — Bolts and pins — Materials*³

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 <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Required characteristics**4.1 Configuration – Dimensions – Masses**

The configuration, dimensions and masses shall be according to Figure 1 and Table 1.

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

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 (<http://www.asd-stan.org/>).

4.2 Tolerances of form and position

Tolerances of form and positions shall be according to ISO 7913 and those specified in Figure 1 and Table 1.

4.3 Materials

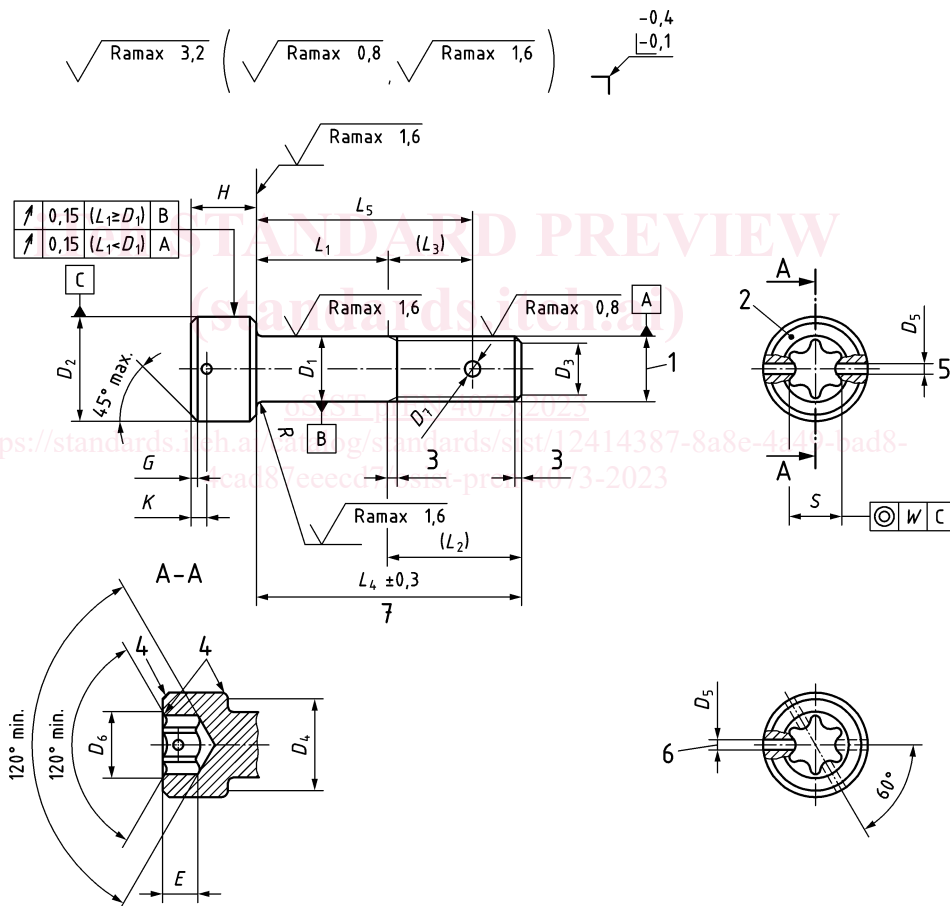
Materials shall be according to TR 3775: alloy steel, classification 1 100 MPa.

4.4 Surface treatment

Surface treatment shall be according to EN 2133, thickness 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
- 3 Conforms to ISO 3353-1
- 4 Radius or chamfer
- 5 One cross-hole optional (see Table 2) for diameter codes 030 and 040
- 6 Two cross-holes optional (see Table 2) for diameter codes 050 to 120
- 7 $L_4 = L_1 + (L_2)$

Figure 1 — configuration

Table 1 — dimensions

Diameter code	Thread ^a	D_1	D_2	D_3		D_4	D_5	D_6	D_7	E		G
		h12	h13	nom.	Tol.	min.	H13	max.	H13	nom.	Tol.	
030	MJ3x0,5 - 4h6h	3	5,5	2,3	0	5,07	1,0	3,4	—	1,5	+0,2 0	0,3
040	MJ4x0,7 - 4h6h	4	7,0	3,0	-0,5	6,53		5,2	1,1	2,0		0,4
050	MJ5x0,8 - 4h6h	5	8,5	3,4	±0,5	8,03		5,8	1,5	2,5		0,5
060	MJ6x1 - 4h6h	6	10,0	4,2		9,38	1,4	6,3	3,0	+0,3	0,6	
080	MJ8x1 - 4h6h	8	13,0	6,2		12,33		8,9	1,9	4,0	0	0,8
100	MJ10x1,25 - 4h6h	10	16,0	7,9		15,33	1,6	10,2	5,0	+0,5	1,0	
120	MJ12x1,25 - 4h6h	12	18,0	9,8		17,23		13,8	2,4	6,0	0	1,2

Diameter code	H		K ± 0,1	$L_1 \pm 0,2^{b,c}$		L2	L3	R		W	Recess EN 3911 code	Mass ^d	
	nom	Tol.		Length code	nom.			max.	min.			e	f
030	3	h13	0,9	002 to 030	2 to 30	7,5	—	0,4	0,2	0,22	10	1,04	0,055
040	4		1,4	002 to 040	2 to 40	10,0	6,0				25	2,26	0,100
050	5		1,6	003 to 050	3 to 50	12,0	7,5	0,5	0,3		27	4,55	0,153
060	6	h14	2,0	003 to 060	3 to 60	14,0	8,5	0,7	0,5	0,22	30	6,95	0,222
080	8		2,4	004 to 080	4 to 80	16,5	10,5				45	15,44	0,395
100	10		2,4	005 to 100	5 to 100	20,5	13,0	0,8	50		29,30	0,616	
120	12		2,4	006 to 120	6 to 120	22,5	14,5	0,9	55		43,10	0,887	

^a In accordance with ISO 5855-2.

^b Increments:

1 for $L_1 \leq 30$;

2 for $30 < L_1 \leq 100$;

4 for $L_1 > 100$.

^c If greater lengths are required, they shall be chosen using the above increments. The length code corresponds to the length L_1 , completed by one or two zeros to the left, where necessary, to obtain a three digit code.

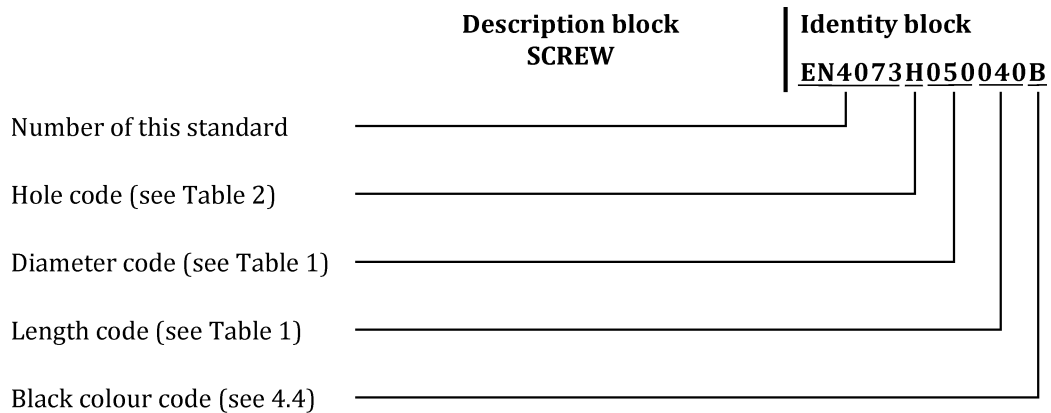
^d Approximate values (kg/1 000 pieces), calculated on the basis of 7,85 kg/dm³, given for information purposes only. They apply to screws without holes.

^e Value for head and first L_4 .

^f Increase for each additional millimetre of L_4 .

5 Designation

EXAMPLE



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

Table 2 — hole codes

Holes	Code
Lockwire	H
Split pin	D
Lockwire and split pin	C
No hole	— (hyphen)

6 Marking

Marking shall be according to Table 3 and Figure 1.

Table 3 — marking

Diameter code	EN 2424 Style
030 and 040	N
050 to 120	B

7 Technical specification

7.1 General

The technical specification shall be according to ISO 7689, with the following modifications.

7.2 Approval of manufacturers

The manufacturer's operations shall be an approved production organisation for aerospace products and shall demonstrate that it has implemented and is able to maintain a quality management system (e.g. according to EN 9100 or an equivalent aerospace accepted and established quality management system).

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7.3 Qualification of bolts

The qualification procedure for aerospace standard products (e.g. according to EN 9133 or an equivalent aerospace accepted and established qualification procedure) shall be used and documented according to the specified tests if not otherwise agreed between customer and supplier.

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