
Aeronavtika - Sorniki z veliko dvanajstrobo glavo, ozka toleranca, srednja navojna dolžina, iz toplotnoodporne zlitine na nikljevi osnovi, pasivirani - Klasifikacija: 1250 MPa (pri temperaturi okolice)/650 °C

Aerospace series - Bolt, large bihexagonal head, close tolerance normal shank, medium length thread, in heat resisting nickel base alloy, passivated - Classification: 1 250 MPa (at ambient temperature) /650 °C

Luft- und Raumfahrt - Zwölfkant-Passschrauben, mittlere Gewindelänge, aus hochwarmfester Nickelbasislegierung, passiviert, - Klasse: 1 250 MPa (bei Raumtemperatur)/650 °C

STANDARD PREVIEW

[SIST EN 3444:2009](https://standards.iteh.ai/catalog/standards/sist/44d52c55-7c24-47e8-ab73-422009/EN-3444-2009)

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Série aérospatiale - Vis à tête bihexagonale large, tige normale à tolérance serrée, filetage moyen, en alliage résistant à chaud à base de nickel, passivées - Classification: 1 250MPa (à température ambiante) / 650 °C

Ta slovenski standard je istoveten z: EN 3444:2006

ICS:

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3444

July 2006

ICS 49.030.30

English Version

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This European Standard was approved by CEN on 9 March 2006.

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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 Central Secretariat has the same status as the official versions.

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Foreword

This European Standard (EN 3444:2006) has been prepared by the AeroSpace and Defense 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of an identical text or by endorsement, at the latest by January 2007, and conflicting national standards shall be withdrawn at the latest by January 2007.

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, 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.

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EN 3444:2006 (E)**1 Scope**

This standard specifies the characteristics of bolts, large bihexagonal head, close tolerance normal shank, medium length thread, in heat resisting nickel base alloy, passivated.

Classification: 1 250 MPa¹⁾ / 650 °C²⁾.

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 2424, *Aerospace series — Marking of aerospace products*

EN 2516, *Aerospace series — Passivation of corrosion resistant steels and decontamination of nickel base alloys*

EN 3769, *Aerospace series — Electrolytic polishing of corrosion resistant steels and heat resisting alloys*

EN 4016, *Aerospace series — Oversized bolts³⁾*

EN 9100, *Aerospace series - Quality management systems - Requirements (based on ISO 9001:2000) and Quality systems - Model for quality assurance in design, development, production, installation and servicing (based on ISO 9001:1994)*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

ISO 3186, *Aerospace — Bolts, large bihexagonal head, normal shank, short or medium length MJ threads, metallic material, coated or uncoated, strength classes 1 250 MPa to 1 800 MPa — Dimensions*

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

ISO 4095, *Aerospace — Bihexagonal drives — Wrenching configuration — Metric series*

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*

ISO 9154, *Aerospace — Bolts, with MJ threads, made of heat-resistant nickel-based alloy, strength class 1 550 MPa — Procurement specification*

TR 3775, *Aerospace series — Bolts and pins — National materials⁴⁾*

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 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 cadmium plating.

3) In preparation at the date of publication of this standard.

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

3 Required characteristics

3.1 Configuration — Dimensions — Masses

See Figure 1 and Table 1.

Dimensions and tolerances are: in conformity with ISO 3186, expressed in millimetres and apply after surface treatment.

3.2 Tolerances of form and position

See ISO 7913.

3.3 Materials

See TR 3775 (heat resisting nickel base alloy, strength class 1 250 MPa).

3.4 Surface treatments

See EN 2516

or

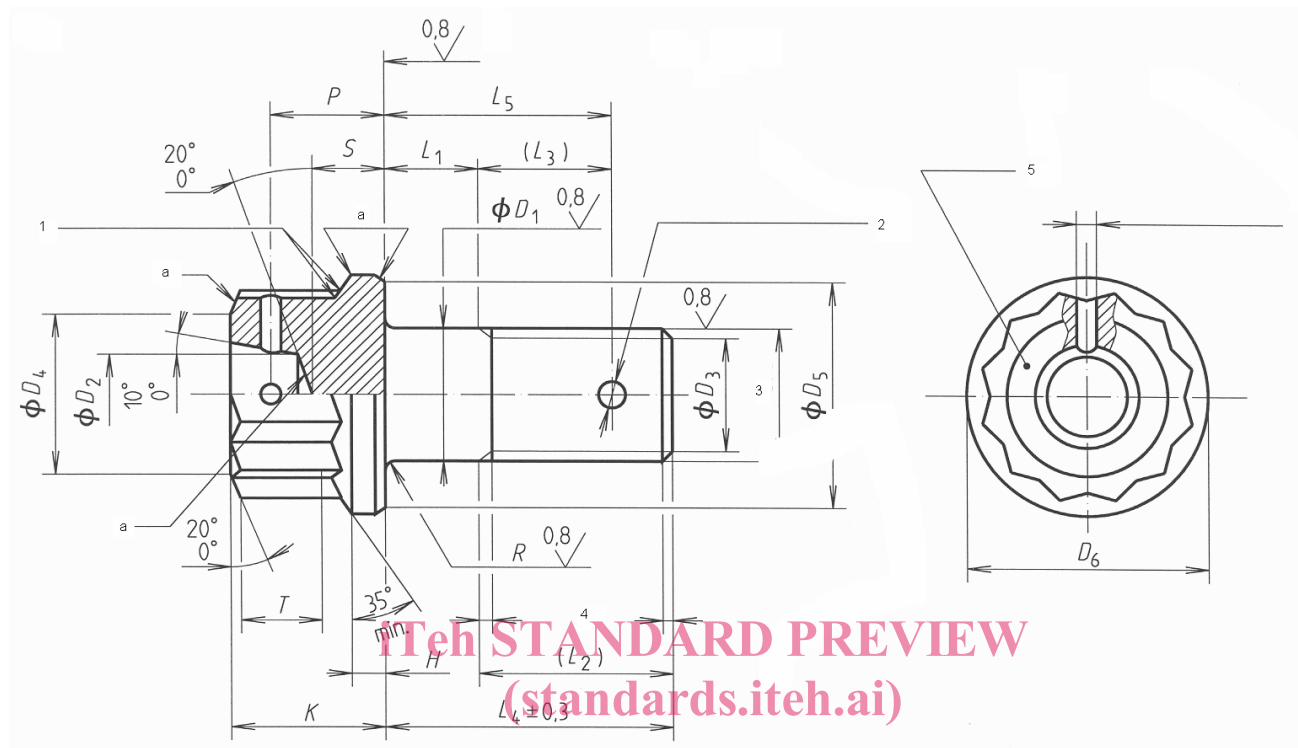
EN 3769 on the head (except bearing face), then EN 2516 on all the bolt. In this case, code P shall be used in the designation.

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EN 3444:2006 (E)

$\sqrt{3,2}$ [$\sqrt{0,8}$] Values in micrometres apply prior to surface treatment.

Remove sharp edges 0,1 to 0,4



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Key

- 1 Radius 0,3 min.
 - 2 1 hole $\varnothing D_8$ (optional)
 - 3 Thread
 - 4 Conforms to ISO 3353
 - 5 Marking
 - 6 4 holes $\varnothing D_9$ equidistant (optional)
- a Shape in area at manufacturer's option.

Figure 1

Table 1

Diameter code	Thread ^a	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	H	K	$L_1^{b,c}$		L_2	L_3	P	R	S	T	Wrenching dash number ^d	Mass ^e	
		f7	+1 0	± 0,5	min.	min.	max.	H13	H13	min.	h15	Code	nom.				0 -0,2	+0,4 0	min.		f	g
050	MJ5x0,8-4h6h	5	2,5	3,4	6,8	9,5	10,3	1	1,5	1,5	7,4	003 to 050	3 to 50	12,5	7,5	5,3	0,8	3,3	2,8	07	5,18	0,16
060	MJ6x1-4h6h	6	3,2	4,2	7,8	11	11,8			1,7	8,4	003 to 060	3 to 60	15	8,5	6,1		3,8	3,5	08	7,92	0,23
070	MJ7x1-4h6h	7	3,9	5,2	8,8	12,5	13,3	1,4	1,9	1,9	9,2	004 to 070	4 to 70	16	9,5	6,7	1	4,2	3,8	09	12,40	0,32
080	MJ8x1-4h6h	8	4,5	6,2	9,8	14	14,8			2,1	9,8	004 to 080	4 to 80	17	10,5	7,2		4,6	3,9	10	15,85	0,42
100	MJ10x1,25-4h6h	10	6,1	7,9	11,8	17,3	18,3	1,4	2,4	2,5	11,6	005 to 100	5 to 100	21	13	8,5	1,2	5,5	4,2	12	29,07	0,64
120	MJ12x1,25-4h6h	12	7,7	9,8	13,7	20,9	22			2,9	12,9	006 to 120	6 to 120	23,5	14,5	9,6		6,4	4,5	14	46,85	0,92
140	MJ14x1,5-4h6h	14	10,3	11,5	16,7	23,9	25	1,6	3	3,3	14,3	007 to 140	7 to 140	27,5	17	10,8	1,4	7,1	5,1	17	70,36	1,16
160	MJ16x1,5-4h6h	16	11,9	13,5	18,6	27,4	28,5			3,7	15,8	008 to 160	8 to 160	30	18,5	12,4		8,4	5,3	19	103,45	1,65
180	MJ18x1,5-4h6h	18	14,5	15,5	21,6	30,4	31,5	1,6	3,8	4,1	17,1	009 to 180	9 to 180	33	21	13,9	1,8	9,4	6,1	22	143,20	2,10
200	MJ20x1,5-4h6h	20	16	17,5	23,6	33,4	34,5			4,5	18,6	010 to 200	10 to 200	35,5	22,5	15,3		10,5	6,6	24	190,60	2,60
220	MJ22x1,5-4h6h	22	18,6	19,5	26,6	36,4	37,5	1,6	3,8	4,9	19,9	011 to 220	11 to 220	38	24	16,8	1,8	11,6	7,4	27	274,00	3,10
240	MJ24x2-4h6h	24	21,2	20,9	29,6	39,4	40,5			5,3	21,9	012 to 240	12 to 240	43,5	26,5	18,3		12,7	8,2	30	365,90	3,70

^a In accordance with ISO 5855-2, except the thread major diameter " d max." which shall be equal to D_1 min. – 0,025.

^b Increments:

- 1 for $L_1 \leq 30$
- 2 for $30 < L_1 < 100$
- 4 for $L_1 \geq 100$

^c If greater lengths are required, these 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 In accordance with ISO 4095 over T min.

^e Approximate values (kg/1 000 pieces), calculated on the basis of $8,25 \text{ kg/dm}^3$, given for information purposes only. They apply to bolts without holes.

^f Value for head and first L_4 .

^g Increase for each additional millimetre of L_4 .