SLOVENSKI STANDARD
SIST EN 2874:2001

01-januar-2001

Aerospace series - Bolts, large bihexagonal head, close tolerance normal shank, medium length thread, in heat resisting base alloy, passivated - Classification: 1 550 MPa (at ambient temperature)/315 °C

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Luft- und Raumfahrt - Zwölfkant-Paßschrauben, mittlere Gewindelänge, aus hochwarmfester Nickelbasislegierung, passiviert - Klasse: 1 550 MPa (bei Raumtemperatur)/315°C

Série aérospatiale - Vis a tete bihexagonale large, tige normale a tolérance serrée, filetage moyen, en alliage résistant a chaud a base de nickel, passivées - Classification: 1550 MPa (a température ambiante)/315°C

Ta slovenski standard je istoveten z: **EN 2874:1996**

ICS:

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

SIST EN 2874:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 2874

July 1996

ICS 49.040.20

Descriptors: aircraft industry, screw, double hexagonal head screw, nickel alloy, heat resistant material, specification, dimension, dimensional tolerance, surface treatment, designation, marking

English version

Aerospace series - Bolts, large bihexagonal head, close tolerance normal shank, medium length thread, in heat resisting nickel base alloy, passivated - Classification : 1 550 MPa (at ambient temperature)/315 °C

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 : 1 550 MPa (à température ambiante)/315 °C

Luft- und Raumfahrt - Zwölfkant-Paßschrauben, mittlere Gewindelänge, aus hochwarmfester Nickelbasislegierung, passiviert - Klasse : 1 550 MPa (bei Raumtemperatur)/315 °C

This European Standard was approved by CEN on 1996-06-29. 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 Central Secretariat or to any CEN member.

The European Standards exist 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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries 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 AECMA, 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 1997, and conflicting national standards shall be withdrawn at the latest by January 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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 : 1 550 MPa [1] / 315 °C [2]

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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	Aerospace - Rolled threads for bolts - Lead and runout requirements
ISO 4095	Fasteners for aerospace construction - Bi-hexagonal wrenching configuration
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, strength class 1 550 MPa, MJ threads - Procurement specification [3]
EN 2000	Aerospace series - Quality assurance - EN aerospace products - Approval of the quality system of manufacturers
EN 2424	Aerospace series - Marking of aerospace products
EN 2516	Aerospace series - Passivation of corrosion resistant steels and decontamination of nickel based alloys [4]
EN 3042	Aerospace series - Quality assurance - EN aerospace products - Qualification procedure
EN 3769	Aerospace series - Electrolytic polishing of corrosion resistant steels and heat resisting alloys [4]
EN 4016	Aerospace series - Oversized bolts [5]
TR 3775	Aerospace series - Bolts and pins - National materials [6]

1) Minimum tensile strength of the material at ambient temperature

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

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

4) Published as AECMA Standard at the date of publication of this standard

5) Published as AECMA Prestandard at the date of publication of this standard

6) Published as AECMA 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

ISO 7913

3.3 Materials

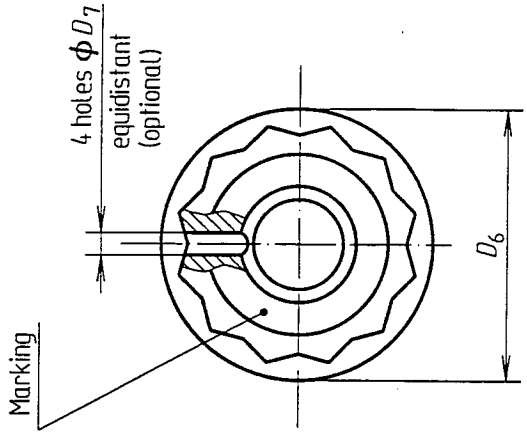
TR 3775 (heat resisting nickel base alloy, strength class 1 550 MPa)

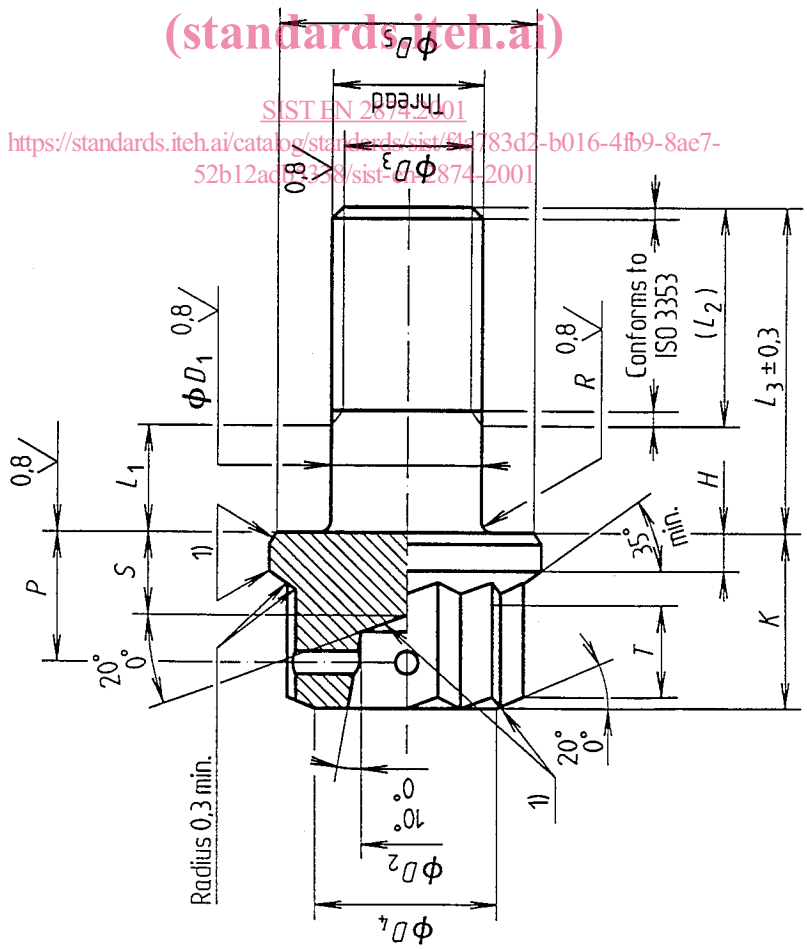
3.4 Surface treatments

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.





3,2 [0,8]

Values in micrometres apply prior to surface treatment.

Break sharp edges 0,1 to 0,4.

1) Shape in this area at manufacturer's option

Figure 1

Table 1

Diameter code	Thread 1)	D_1	D_2	D_3	D_4	D_5	D_6	D_7	H	K	$L_1 \pm 0,2$ 2) 3)		L_2	P	R	S	T	Wrenching dash number 4)	Mass 5)	
		f7	$^{+1}_{0}$	± 0,5	min.	min.	max.	H13	min.	h15	Code	nom.			$^{0}_{-0,2}$	$^{+0,4}_{0}$	min.		6)	7)
050	MJ5x0,8 - 4h6h	5	2,5	3,4	6,8	9,5	10,3	1	1,5	7,4	003 to 050	3 to 50	12,5	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	1,4	1,7	8,4	003 to 060	3 to 60	15	6,1	1	3,8	3,5	08	7,92	0,23
070	MJ7x1 - 4h6h	7	3,9	5,2	8,8	12,5	13,3		1,9	9,2	004 to 070	4 to 70	16	6,7		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	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		2,5	11,6	005 to 100	5 to 100	21	8,5		5,5	4,2	12	29,07	0,64
120	MJ12x1,25 - 4h6h	12	7,7	9,8	13,7	20,9	22	1,6	2,9	12,9	006 to 120	6 to 120	23,5	9,6	1,2	6,4	4,5	14	46,85	0,92
140	MJ14x1,5 - 4h6h	14	10,3	11,5	16,7	23,9	25		3,3	14,3	007 to 140	7 to 140	27,5	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	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		4,1	17,1	009 to 180	9 to 180	33	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	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		4,9	19,9	011 to 220	11 to 220	38	16,8		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	18,3		12,7	8,2	30	365,90	3,70

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

2) Increments :
   1 for $L_1 \leq 30$
   2 for $30 < L_1 \leq 100$
   4 for $L_1 > 100$

3) 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.

4) In accordance with ISO 4095 over T min.

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

6) Value for head and first L_3

7) Increase for each additional millimetre of L_3.