SLOVENSKI STANDARD
SIST EN 3740:2001

01-januar-2001

Aerospace series - Bolts, shouldered, thin hexagonal head, close tolerance shank, short thread, in titanium alloy, anodized, MoS2 lubricated - Classification: 1 100 MPa (at ambient temperature)/315 °C

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Luft- und Raumfahrt - Sechskant-Paßschrauben, kleiner Kopf, kurzes Gewinde, aus Titanlegierung, anodisiert, MoS2-geschmiert - Klasse: 1 100 MPa (bei Raumtemperatur)/315 °C

Série aérospatiale - Axes a tete hexagonale basse, tige a tolérance serrée, filetage court, en alliage de titane, anodisés, lubrifiés MoS2 - Classification: 1 100 MPa (a température ambiante)/315 °C

Ta slovenski standard je istoveten z: **EN 3740:1996**

ICS:

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

SIST EN 3740:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3740

September 1996

ICS 49.040.20

Descriptors: aircraft industry, hinge pin, titanium alloy, specification, dimension, dimensional tolerance, surface treatment, designation, marking

English version

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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of an identical text or by endorsement, at the latest by March 1997, and conflicting national standards shall be withdrawn at the latest by March 1997.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, shouldered, thin hexagonal head, close tolerance shank, short thread, in titanium alloy, anodized, MoS_2 lubricated.

Classification : 1 100 MPa [1] / 315 °C [2]

These bolts are intended to be used with washers EN 2414 and nuts EN 3230.

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 3353	Aerospace - Rolled threads for bolts - Lead and runout requirements
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 9152	Aerospace - Titanium alloy bolts, strength class 1 100 MPa, MJ threads - Procurement specification [3]
EN 2000	Aerospace series - Quality assurance - EN aerospace products - Approval of the quality system of manufacturers
EN 2414	Aerospace series - Washers, chamfered, with counterbore, in alloy steel, cadmium plated [4]
EN 2424	Aerospace series - Marking of aerospace products
EN 2491	Aerospace series - Molybdenum disulphide dry lubricants - Coating methods [5]
EN 3042	Aerospace series - Quality assurance - EN aerospace products - Qualification procedure
EN 3230	Aerospace series - Nuts, hexagon, slotted / castellated, reduced height, normal across flats, in steel, cadmium plated - Classification : 900 MPa (at ambient temperature) / 235 °C [4]
EN 4016	Aerospace series - Oversized bolts [4]
TR 3775	Aerospace series - Bolts and pins - National materials [6]
TR 4070	Aerospace series - Molybdenum disulphide dry lubricants - List of commercial products [3]

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 Prestandard at the date of publication of this standard

5) Published as AECMA Standard 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 figures 1 and 2 and table 1.

Dimensions and tolerances are expressed in millimetres and apply after anodizing but before lubricating.

3.2 Tolerances of form and position

ISO 7913

3.3 Materials

TR 3775 (titanium alloy, strength class 1 100 MPa)

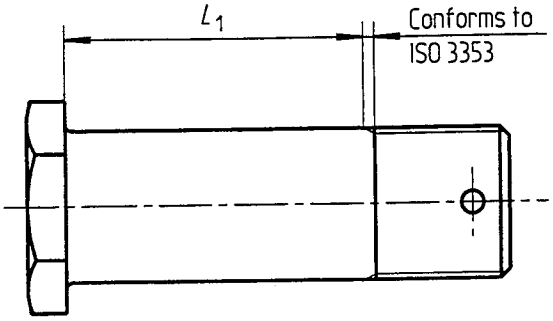
3.4 Surface treatment

Lubrication :

- lubricant : see TR 4070 ;
- application : EN 2491 : 5 µm to 10 µm.

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

Break sharp edges 0,1 to 0,4.



For non-quoted dimensions, see figure 2.

Figure 1 : Configuration for diameter codes 050 and 060

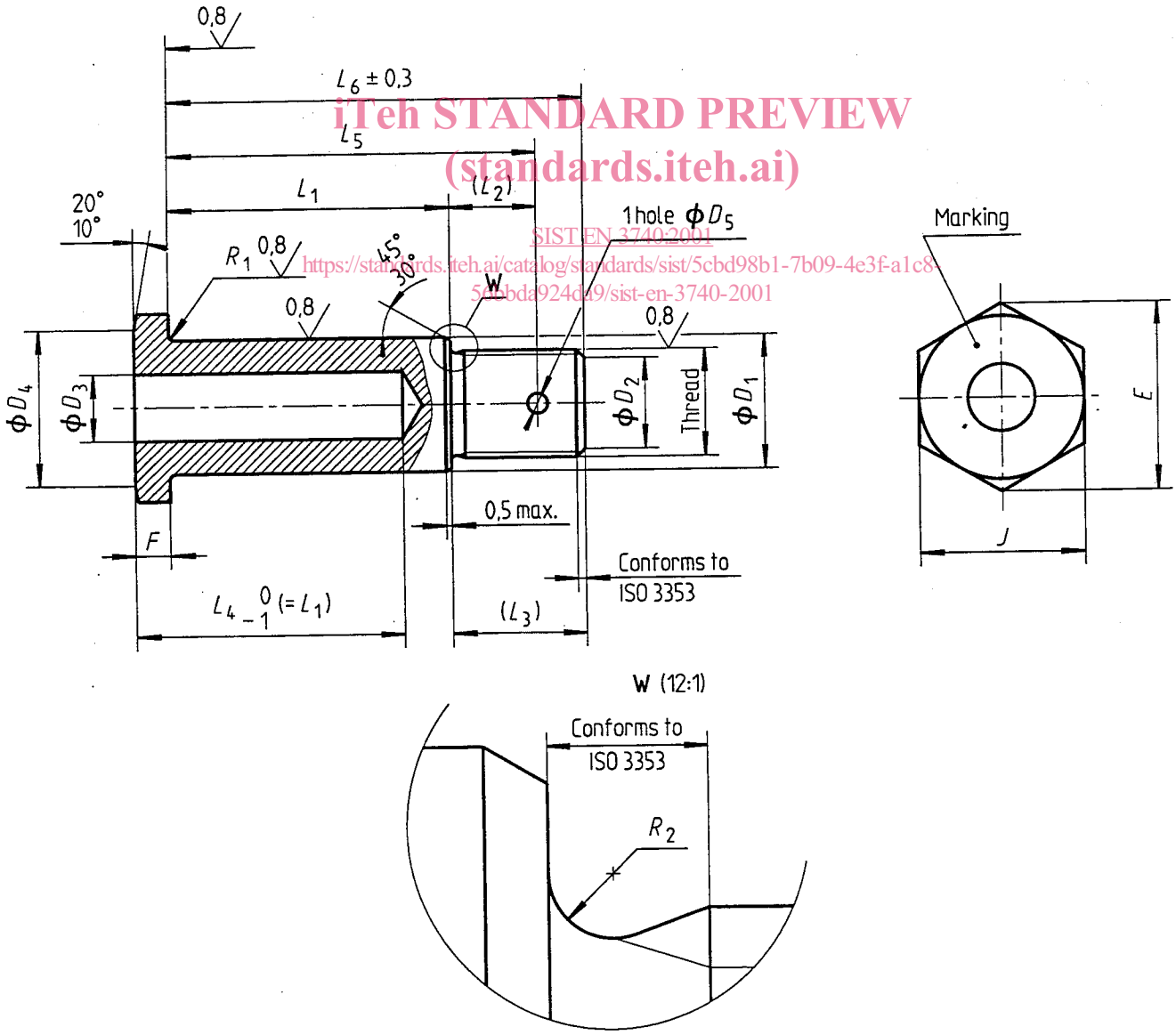


Figure 2 : Configuration for diameter codes 080 to 250

Table 1

Diameter code	Thread [1]	D_1 f7	D_2 ± 0,5	D_3 H13	D_4 min.	D_5 H13	E min.	F 0 − 0,3	J nom.	J Tol.
050	MJ5x0,8-4h6h	5	3,4	—	7,4	1,5	8,7	2,5	8	h12
060	MJ6x1-4h6h	6	4,2	—	9,4		10,9		10	h13
080	MJ6x1-4h6h	8		—						
100	MJ8x1-4h6h	10	6,2	—	12,3	1,9	14,3	3	13	
120	MJ10x1,25-4h6h	12	7,9	—	16,3	2,4	18,9	3,5	17	
150	MJ12x1,25-4h6h	15	9,8	8	18,3		21,1	4	19	
170	MJ14x1,5-4h6h	17	11,5	9	21,3	3	24,5		22	
200	MJ16x1,5-4h6h	20	13,5	10	23,3		26,8	5	24	
220	MJ18x1,5-4h6h	22	15,5	11	26,3	3,8	30,2		27	
250	MJ20x1,5-4h6h	25	17,5	12	29,3		33,6		30	

Diameter code	L_1 ± 0,2 [2] [3] Code	L_1 ± 0,2 [2] [3] nom.	L_2	L_3	R_1 0 − 0,2	R_2 + 0,2 0	Mass [4] 5)	Mass [4] 6)
050	005 to 050	5 to 50	6	9	0,4	—	1,56	0,09
060	006 to 060	6 to 60	7	10		—	2,53	0,12
080	007 to 080	7 to 80				0,25	3,31	0,22
100	007 to 080	7 to 80	7,5	11,5		0,4	6,21	0,35
120	007 to 080	7 to 80	9	14,5			11,06	0,50
150	007 to 080	7 to 80	10	16	0,6	0,6	15,52	0,56
170	007 to 080	7 to 80	12	19			22,31	0,73
200	007 to 080	7 to 80	12,5	20,5	0,9	0,8	32,76	1,05
220	007 to 080	7 to 80	14,5	22,5			43,17	1,27
250	007 to 080	7 to 80	15	24,5			57,13	1,68

1) In accordance with ISO 5855-2, except the thread major diameter " d max." which, for diameter codes 050 and 060, shall be equal to D_1 min. − 0,025.

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

3) If greater lengths are required, they shall be chosen using increments of 2 mm. 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) Approximate values (kg/1 000 pieces), calculated on the basis of 4,45 kg/dm^3, given for information purposes only

5) Value for head and first L_6

6) Increase for each additional millimetre of L_6.