

SLOVENSKI STANDARD
SIST EN 3303:2001**01-januar-2001**

Aerospace series - Screw, cap head, hexagon socket, coarse tolerance normal shank, medium length thread, in alloy steel, cadmium plated - Classification: 1 100 MPa (at ambient temperature)/235°C

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Luft- und Raumfahrt - Zylinderschrauben mit Innensechskant, mittlere Gewindelänge, aus legiertem Stahl, verkadmet - Klasse 1 100 MPa (bei Raumtemperatur)/235°C

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

Ta slovenski standard je istoveten z: EN 3303:1997

ICS:

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

SIST EN 3303:2001**en**

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EUROPEAN STANDARD

EN 3303

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1997

ICS 49.040.20

Descriptors: aircraft industry, screw, cheese head screw, socket head screw, alloy steel, specification, dimension, dimensional tolerance, surface treatment, designation, marking

English version

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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of an identical text or by endorsement, at the latest by July 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.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.

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1 Scope

This standard specifies the characteristics of screws, cap head, hexagon socket, coarse tolerance normal shank, medium length thread, in alloy steel, cadmium plated.

Classification : 1 100 MPa ¹⁾ / 235 °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 3353 Aerospace - Rolled threads for bolts - Lead and runout requirements
- ISO 4762 Hexagon socket head cap screws - Product grade A
- ISO 5855-2 Aerospace - MJ threads - Part 2 : Limit dimensions for bolts and nuts
- ISO 7689 Aerospace - Alloy steel bolts with strength classification 1 100 MPa and MJ threads - Procurement specification
- ISO 7913 Aerospace - Bolts and screws, metric - Tolerances of form and position
- EN 2000 Aerospace series - Quality assurance - EN aerospace products - Approval of the quality system of manufacturers
- EN 2133 Aerospace series - Cadmium plating of steels, with maximum specified tensile strength equal to or less than 1 450 MPa, copper, copper alloys and nickel alloys ³⁾
- EN 2424 Aerospace series - Marking of aerospace products
- EN 3042 Aerospace series - Quality assurance - EN aerospace products - Qualification procedure
- TR 3775 Aerospace series - Bolts and pins - National materials ⁴⁾

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 AECMA Standard at the date of publication of this standard

4) 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 expressed in millimetres and apply after surface treatment.

3.2 Tolerances of form and position

ISO 7913, figure 1 and table 1

3.3 Materials

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

3.4 Surface treatment

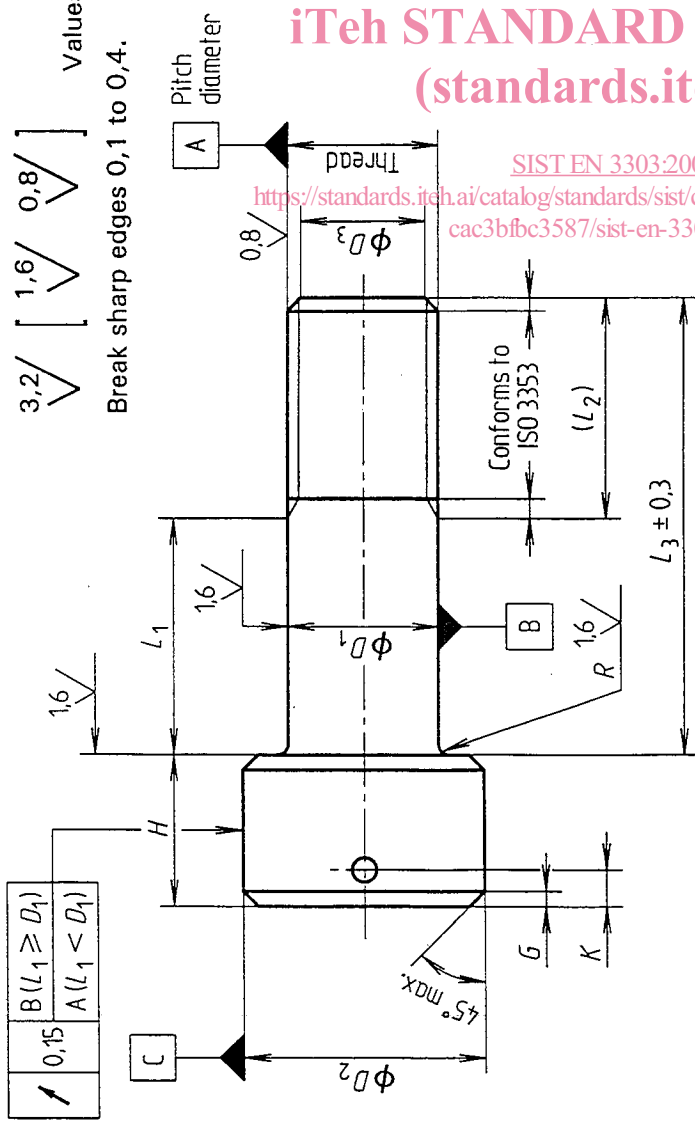
EN 2133, 6 μm to 10 μm , on all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces, a continuous deposit shall be present, but no value is specified.

Black colour option : code B

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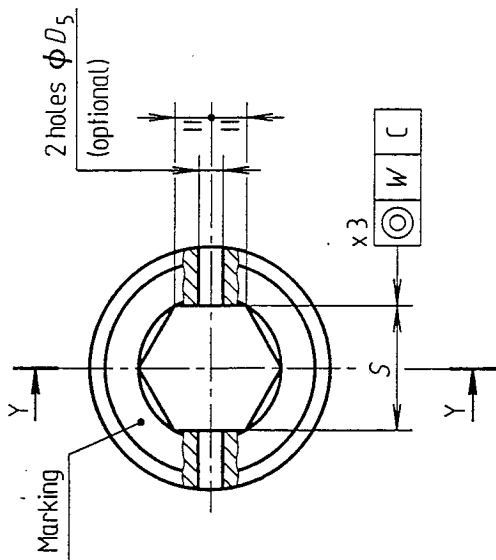
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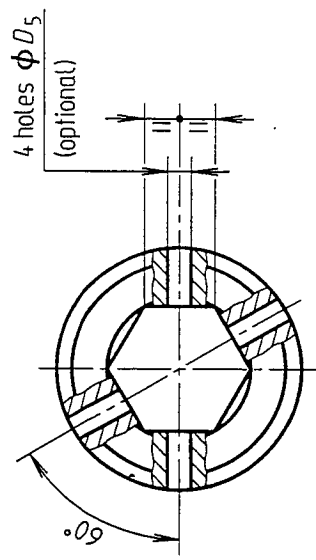
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Configuration for diameter codes 030 and 040



Configuration for diameter codes 050 to 200

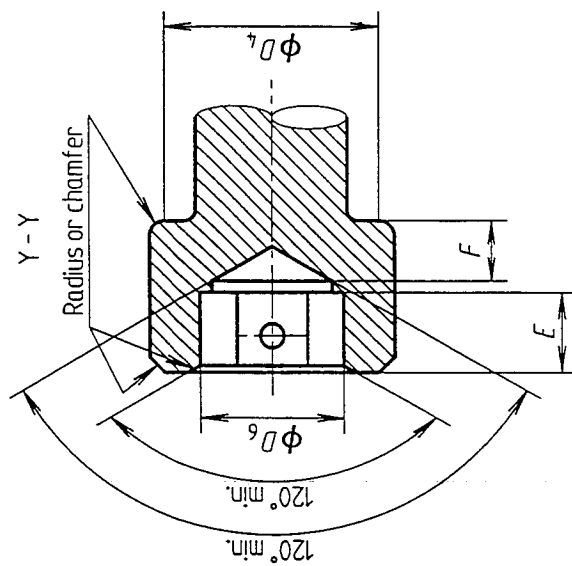


Figure 1

Table 1

Diameter code	Thread 1)	D ₁ h12	D ₂ h13	D ₃		D ₄ min.	D ₅ H13	D ₆ max.	E min.	F min.	G max.	H		K ± 0,1	L ₁ ± 0,2 2) 3)		L ₂	R		S		W	Mass 4)	
				nom.	Tol.							Code	nom.		nom.	Tol.		nom.	Tol.	nom.	Tol.		5)	6)
030	MJ3x0,5 - 4h6h	3	5,5	2,3	0	5,07		3,4	1,5	1,15	0,3	3		0,9	002 to 030	2 to 30	7,5			2,5	D11	—	1,04	0,05
040	MJ4x0,7 - 4h6h	4	7	3	-0,5	6,53	1	3,9	2	1,4	0,4	4	h13	1,4	002 to 040	2 to 40	10			3	E11		2,26	0,10
050	MJ5x0,8 - 4h6h	5	8,5	3,4		8,03		5,1	2,5	1,9	0,5	5		1,6	003 to 050	3 to 50	12		0	4		0,22	4,26	0,16
060	MJ6x1 - 4h6h	6	10	4,2		9,38		6,3	3	2,3	0,6	6		2	003 to 060	3 to 60	14		-0,2	5			6,95	0,22
070	MJ7x1 - 4h6h	7	12	5,2		11,33	1,4	7,5	3,5	2,8	0,7	7		2,2	004 to 070	4 to 70	15		0,7	6			10,95	0,29
080	MJ8x1 - 4h6h	8	13	6,2		12,33			4	3,3	0,8	8		2,4	004 to 080	4 to 80	16,5			8	E12	0,27	15,43	0,39
100	MJ10x1,25 - 4h6h	10	16	7,9	± 0,5	15,33		10,2	5	4	1	10		2,4	005 to 100	5 to 100	20,5		0,8	10			29,31	0,61
120	MJ12x1,25 - 4h6h	12	18	9,8		17,23		13,8	6	4,8	1,2	12	h14		006 to 120	6 to 120	22,5		0,9	12			43,10	0,82
140	MJ14x1,5 - 4h6h	14	21	11,5		20,17	1,6	15	7	5,8	1,4	14			007 to 140	7 to 140	26			12			68,25	1,13
160	MJ16x1,5 - 4h6h	16	24	13,5		23,17		17,2	8	6,8	1,6	16		3,2	008 to 160	8 to 160	28,5		1,1	14		0,33	100,34	1,48
180	MJ18x1,5 - 4h6h	18	27	15,5		25,87			9	7,8	1,8	18			009 to 180	9 to 180	31		-0,3	17	D12		140,01	1,87
200	MJ20x1,5 - 4h6h	20	30	17,5		28,87		20,7	10	8,6	2	20			010 to 200	10 to 200	33,5		1,3	17			182,91	2,11

1) In accordance with ISO 5855-2

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, 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.4) 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.5) Value for head and first L_3 6) Increase for each additional millimetre of L_3