

SLOVENSKI STANDARD

SIST EN 3007:2001

01-januar-2001

Aerospace series - Bolts, hexagon head, relieved shank, long thread, in heat resisting steel FE-PA92HT (A286), silver plated - Classification: 900 MPa (at ambient temperature)/650°C

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Luft- und Raumfahrt - Sechskantschrauben, Dünnschaft, langes Gewinde, aus hochwarmfestem Stahl FE-PA92HT (A286), versilbert - Klasse: 900 MPa (bei Raumtemperatur)/650°C

Série aérospatiale - Vis à tête hexagonale, fut dégagé, filetage long, en acier résistant à chaud FE-PA92HT (A286), argentées - Classification : 900 MPa (à température ambiante) /650°C

Ta slovenski standard je istoveten z: EN 3007:1996

ICS:

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

SIST EN 3007:2001

en

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EUROPEAN STANDARD

EN 3007

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1996

ICS 49.040.20

Descriptors: aircraft industry, hexagonal head screw, heat resistant steel, silver coating, classification, surface treatment, dimension, designation

English version

Aerospace series - Bolts, hexagon head, relieved shank, long thread, in heat resisting steel FE-PA92HT (A286), silver plated - Classification: 900 MPa (at ambient temperature) / 650 °C

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Série aéronautique - Vis à tête hexagonale, fût dégagé, filetage long, en acier résistant à chaud FE-PA92HT (A286), argentées
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Luft- und Raumfahrt - Sechskantschrauben, Dünnschaft, langes Gewinde, aus hochwarmfestem Stahl FE-PA92HT (A286), versilbert - Klasse: 900 MPa (bei Raumtemperatur) / 650 °C

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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 successively received the approval of the National Associations and the Official Services of the members 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 September 1996, and conflicting national standards shall be withdrawn at the latest by September 1996.

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 United Kingdom

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STANDARDS
INTERNATIONAL ORGANIZATION
CYCLOSTAMPED BY THE NATIONAL BUREAU OF STANDARDS
WASHINGTON, D.C.

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BY THE NATIONAL BUREAU OF STANDARDS



1 Scope

This standard specifies the characteristics of hexagon headed bolts with relieved shank and long thread in FE-PA92HT, silver plated, for aerospace applications.

Classification : 900 MPa ¹⁾ / 650 °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 5855-2 Aerospace - MJ threads - Part 2 : Limit dimensions for bolts and nuts
- EN 2399 Heat resisting steel FE-PA92-HT - $R_m \geq 900$ MPa - Bars for forged bolts - $D \leq 25$ mm - Aerospace series ³⁾
- EN 2424 Aerospace series - Marking of aerospace products
- EN 2576 Aerospace series - Bolts in heat resisting steel FE-PA92HT (A286) - Classification : 900 MPa / 650 °C - Technical specification ⁴⁾
- EN 2786 Aerospace series - Electrolytic silver plating of fasteners ⁴⁾
- EN 3639 Aerospace series - Heat resisting alloy FE-PA2601 - Softened and cold worked - Wire for forged fasteners - $D \leq 15$ mm - 900 MPa $\leq R_m \leq 1\ 100$ MPa ⁴⁾

3 Required characteristics

3.1 Configuration - Dimensions - Tolerances - Masses

See figure 1 and tables 1 and 2. Dimensions and tolerances are in millimetres. They apply after silver plating.

3.2 Materials

EN 2399 or EN 3639

3.3 Surface treatment

EN 2786

Thickness :

- thread : 3 μ m to 6 μ m, shall be measured at the pitch diameter ;
- other areas may show complete coverage, without thickness requirement.

1) Minimum tensile strength of the material at ambient temperature

2) Maximum test temperature of the parts

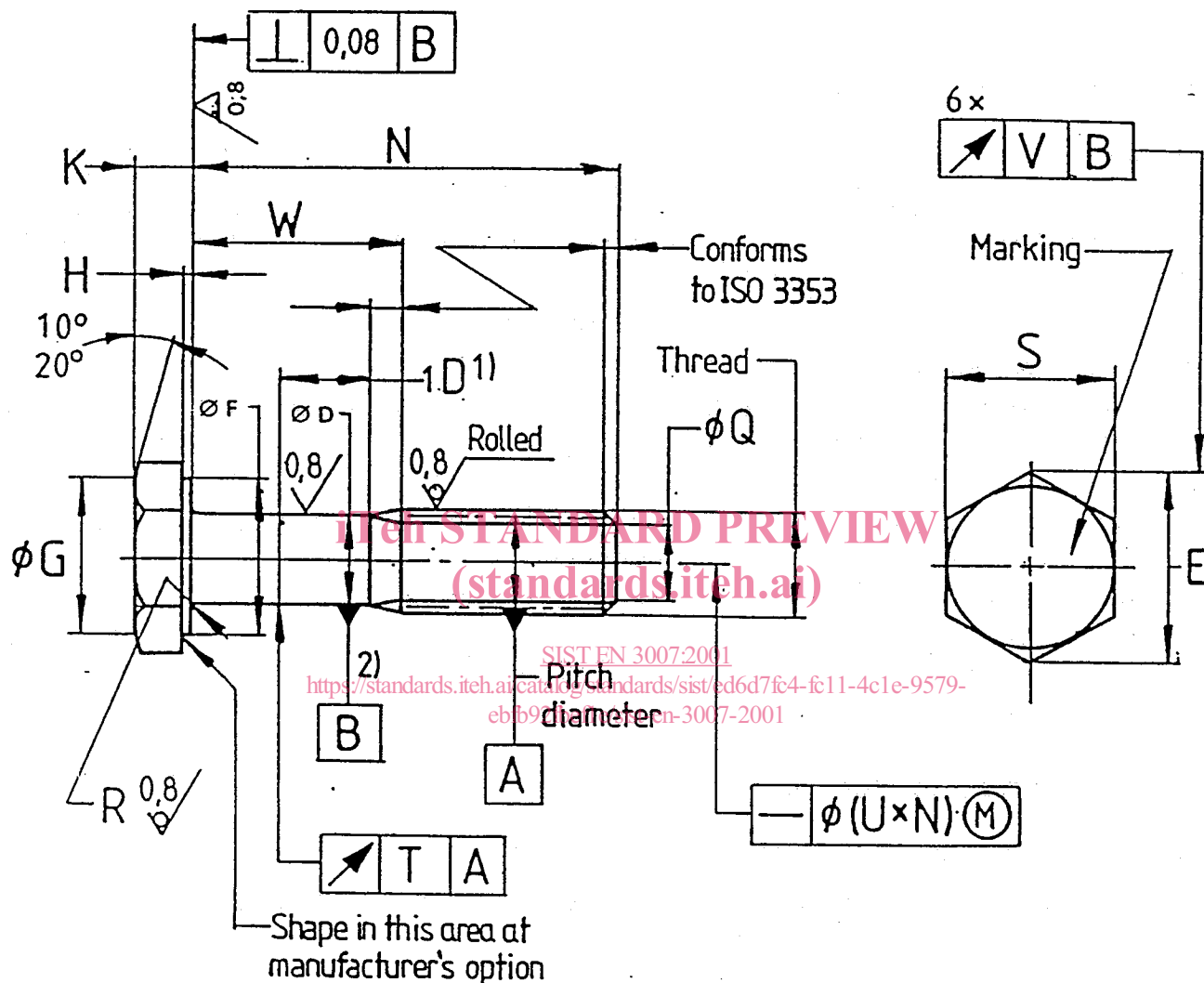
3) Published as AECMA Standard at the date of publication of this standard

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

3,2 / (0,8 / 0,8 / 0,8 / 0,8 / 0,8 / Rolled

Values apply before silver plating.

Remove sharp edges 0,1 to 0,4



- 1) When the length of the shank is less than one times the nominal value of the shank diameter D , the run-out is measured at a distance equal to half the actual shank length.
- 2) For bolts having a shank length less than one times the nominal value of the shank diameter D , and for those threaded to head, the pitch diameter axis shall be used as the datum.

Figure 1

Table 1

Code	Thread 1)	D ± 0,13	E min.	F min.	G min.	H 0	K 0	Q ± 0,5	R		S h13	T	U	V	
									max.	min.					
050	MJ5x0,8-4h6h	4,48	9,8	8,3	8,4	0,5	3	3,4	0,5	0,3	9	0,12	0,003	0,25	
060	MJ6x1-4h6h	5,35	12	10,2	10,3		3,5	4,2	0,7	0,5	11			0,3	
070	MJ7x1-4h6h	6,35	13,2	11,2	11,3		4	5,2			12			0,35	
080	MJ8x1-4h6h	7,35	15,5	13,2	13,3	0,6	4,5	6,2	0,6	0,5	14	0,15	0,0025	0,4	
100	MJ10x1,25-4h6h	9,19	18,9	16	16,3		5	7,9			0,8			17	0,5
120	MJ12x1,25-4h6h	11,19	21,1	18	18,3		6	9,8			0,9			19	0,18

1) In accordance with ISO 5855-2

Table 2

Length code	N ± 0,3	Thread code																			
		050			060			070			080			100			120				
		W max.	W min.	Mass ¹⁾	W max.	W min.	Mass ¹⁾	W max.	W min.	Mass ¹⁾	W max.	W min.	Mass ¹⁾	W max.	W min.	Mass ¹⁾	W max.	W min.	Mass ¹⁾		
008	8			2,66																	
010	10			2,91		4,68															
012	12			3,16		5,03															
014	14		2,1	3,41		5,39															
016	16			3,66		5,75		2,2													25,66
018	18			3,91		6,10		2,7													27,14
020	20			4,16		6,46															28,61
022	22			4,41		6,82															30,09
024	24			4,66		7,17		4													31,56
026	26			4,91		7,53		6													33,04
028	28			5,16		7,88		8													34,51
030	30			5,41		8,24		10													35,98
032	32			5,66		8,60		12													37,46
034	34			5,91		8,95		14													38,93
036	36			6,16		9,31		16													40,4
038	38			6,41		9,66		18													42,1
040	40			6,66		10,02		20													43,7
042	42			6,91		10,38		22													45,4
044	44			7,16		10,73		24													47,0
046	46			7,41		11,09		26													48,7
048	48			7,66		11,45		28													50,3
050	50			7,91		11,80		30													52,0
052	52			8,16		12,16		32													53,6
054	54			8,41		12,51		34													55,3
056	56			8,66		12,87		36													56,9
058	58			8,90		13,23		38													58,6
060	60			9,15		13,58		40													60,3
062	62			9,40		13,94		42													61,9
064	64			9,65		14,29		44													63,6
066	66			9,90		14,65		46													65,2
068	68			10,15		15,01		48													66,9
								50													68,5
								52													68,5

(continued)

Table 2 (concluded)

Length code	N ± 0,3	Thread code																	
		050			060			070			080			100			120		
		W max.	min.	Mass ¹⁾	W max.	min.	Mass ¹⁾	W max.	min.	Mass ¹⁾	W max.	min.	Mass ¹⁾	W max.	min.	Mass ¹⁾	W max.	min.	Mass ¹⁾
070	70	54	52,5	10,40	52	50,5	15,36	50	48,5	21,5	48	46,5	29,56	44	42,5	46,59	40	38,5	70,2
072	72				54	52,5	15,72	52	50,5	22,0	50	48,5	30,23	46	44,5	47,64	42	40,5	71,8
074	74				56	54,5	16,07	54	52,5	22,5	52	50,5	30,91	48	46,5	48,68	44	42,5	73,5
076	76				58	56,5	16,43	56	54,5	23,01	54	52,5	31,58	50	48,5	49,73	46	44,5	75,2
078	78				60	58,5	16,79	58	56,5	23,51	56	54,5	32,25	52	50,5	50,78	48	46,5	76,8
080	80				62	60,5	17,14	60	58,5	24,01	58	56,5	32,92	54	52,5	51,83	50	48,5	78,5
082	82				64	62,5	17,50	62	60,5	24,51	60	58,5	33,59	56	54,5	52,88	52	50,5	80,1
084	84				66	64,5	17,86	64	62,5	25,01	62	60,5	34,27	58	56,5	53,93	54	52,5	81,8
086	86							66	64,5	25,52	64	62,5	34,94	60	58,5	54,98	56	54,5	83,4
088	88							68	66,5	26,02	66	64,5	35,61	62	60,5	56,02	58	56,5	85,1
090	90							70	68,5	26,52	68	66,5	36,28	64	62,5	57,07	60	58,5	86,7
092	92							72	70,5	27,02	70	68,5	36,96	66	64,5	58,12	62	60,5	88,4
094	94							74	72,5	27,52	72	70,5	37,63	68	66,5	59,17	64	62,5	90,0
096	96							76	74,5	28,02	74	72,5	38,30	70	68,5	60,22	66	64,5	91,7
098	98							78	76,5	28,52	76	74,5	38,97	72	70,5	61,27	68	66,5	93,4
100	100										78	76,5	39,64	74	72,5	62,32	70	68,5	95,0
104	104										82	80,5	40,99	78	76,5	64,41	74	72,5	98,3
108	108										86	84,5	42,33	82	80,5	66,51	78	76,5	101,6
112	112										90	88,5	43,68	86	84,5	68,61	82	80,5	104,9
116	116													90	88,5	70,70	86	84,5	108,3
120	120													94	92,5	72,80	90	88,5	111,6
124	124													98	96,5	74,90	94	92,5	114,9
128	128													102	100,5	77,00	98	96,5	118,2
132	132													106	104,5	79,09	102	100,5	121,4
136	136													110	108,5	81,19	106	104,5	124,7
140	140													114	112,5	83,29	110	108,5	128,1
144	144																114	112,5	131,5
148	148																118	116,5	134,7
152	152																122	120,5	138,0
156	156																126	124,5	141,4
160	160																130	128,5	144,7
164	164																134	132,5	148,0
168	168																138	136,5	151,2

1) Mass ≈ quoted in kg/1 000 parts