SLOVENSKI STANDARD
SIST EN 2934:2001

01-januar-2001

Aerospace series - Bolts, T-head, relieved shank, long thread, in heat resisting nickel base alloy NI-P100HT (Inconel 718), silver plated - Classification: 1 275 MPa (at ambient temperature)/650 °C

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Luft- und Raumfahrt - T-Kopfschrauben, Dünnschaft, langes Gewinde, aus hochwarmfester Nickelbasislegierung NI-P100HT (Inconel 718), versilbert - Klasse: 1 275 MPa (bei Raumtemperatur)/650°C

Série aérospatiale - Vis a tete en T, fut dégagé, filetage long, en alliage résistant a chaud a base de nickel NI-P100HT (Inconel 718), argentées - Classification: 1275 MPa (a température ambiante)/650°C

Ta slovenski standard je istoveten z: EN 2934:1996

ICS:

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

SIST EN 2934:2001 **en**

EUROPEAN STANDARD **EN 2934**

NORME EUROPÉENNE

EUROPÄISCHE NORM March 1996

ICS 49.040.20

Descriptors: aircraft industry, screw, nickel alloy, heat resistant material, silver coating, classification, surface treatment, dimension, designation

English version

Aerospace series - Bolts, T-head, relieved shank, long thread, in heat resisting nickel base alloy NI-P100HT (Inconel 718), silver plated - Classification : 1 275 MPa (at ambient temperature) / 650 °C

Série aérospatiale - Vis à tête en T, fût dégagé, filetage long, en alliage résistant à chaud à base de nickel NI-P100HT (Inconel 718), argentées - Classification : 1 275 MPa (à température ambiante) / 650 °C

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This European Standard was approved by CEN on 1995-08-31. 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.

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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

1 Scope

This standard specifies the characteristics of T-headed bolts with relieved shank, long thread, in NI-P100HT, silver plated, for aerospace applications.

Classification : 1 275 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 2424	Aerospace series - Marking of aerospace products
EN 2583	Aerospace series - Bolts in heat resisting nickel base alloy NI-P100HT (Inco 718) - Classification : 1 275 MPa / 650 °C - Technical specification [3]
EN 2786	Aerospace series - Electrolytic silver plating of fasteners [3]
EN 2952	Aerospace series - Heat resisting alloy NI-PH2601 - Solution treated and cold worked - Bar for forged fasteners - $D \leq 50$ mm - 1 270 MPa $\leq R_m \leq$ 1 550 MPa [3]
EN 3219	Aerospace series - Heat resisting nickel base alloy (NI-P100HT) - Cold worked and softened - Bar and wire for continuous forging or extrusion for fasteners - $3 \leq D \leq 30$ mm [3]

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 2952 or 3219

3.3 Surface treatment

EN 2786

Thickness :

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

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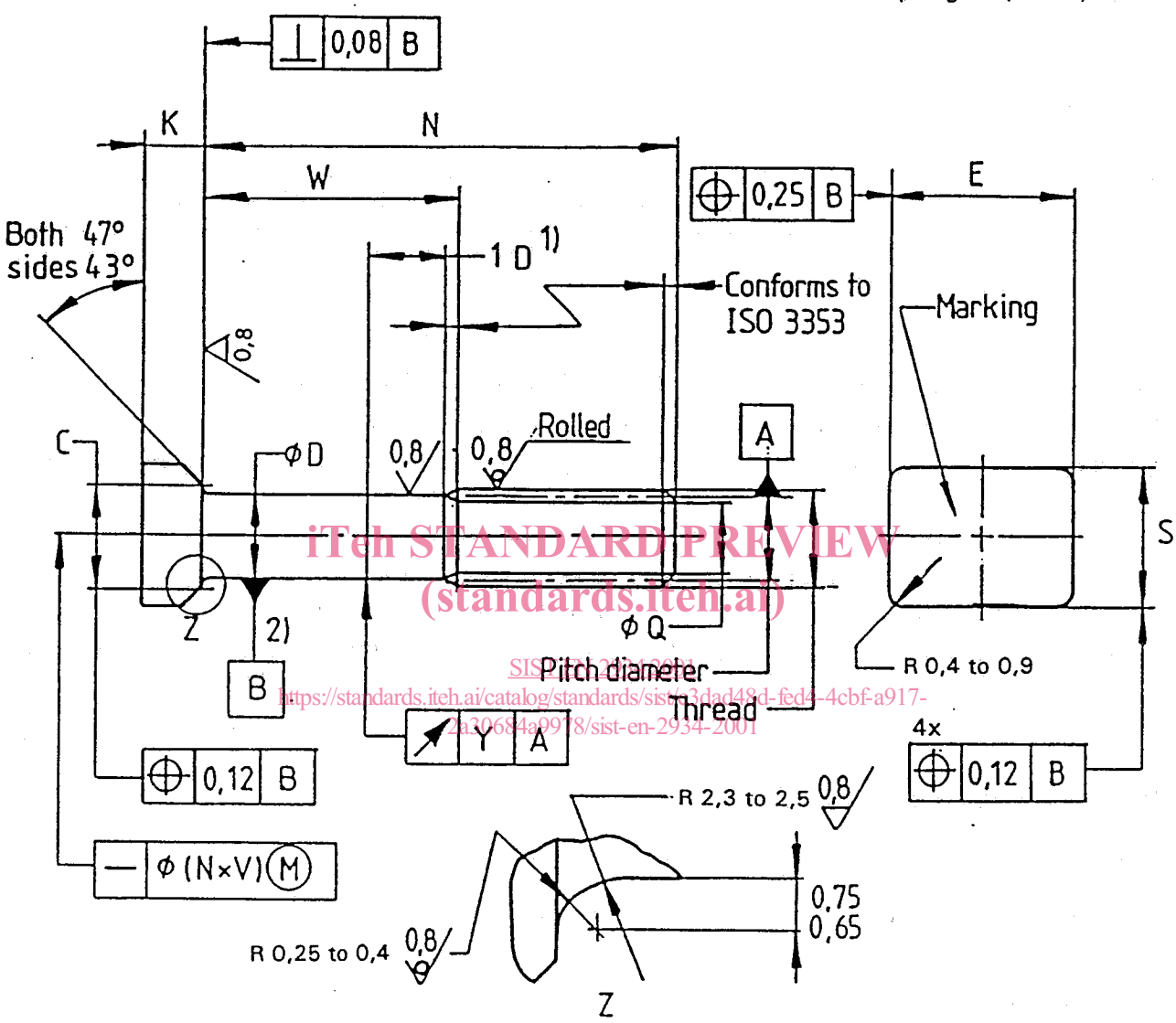
1) Minimum tensile strength of the material at ambient temperature
2) Maximum test temperature of the parts
3) Published as AECMA Prestandard at the date of publication of this standard

3,2 (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

Thread 1)		*C*	*D*	*E*	*K*	*Q*	*S*	*V*	*Y*
Code	Designation	± 0,1	± 0,13	+ 0,5 0	+ 0,5 0	± 0,5	+ 0,3 0		
050	MJ5x0,8-4h6h	6,2	4,48	11,1	2,9	3,4	8,1	0,003	0,12
060	MJ6x1-4h6h	7,2	5,35	12	3,4	4,2	9,2		
070	MJ7x1-4h6h	8,3	6,35	13,4	4	5,2	10,2		0,15
080	MJ8x1-4h6h	9,3	7,35	14	4,5	6,2	11,2		
100	MJ10x1,25-4h6h	11,1	9,19	16,5	5,3	7,9	13	0,0025	
1) In accordance with ISO 5855-2									

Table 2

Length code	N ± 0,3	Thread code														
		050			060			070			080			100		
		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)
014	14	4	2,5	4,42												
016	16			4,68	4	2,5	6,61									
018	18			4,94			6,98	4	2,5	9,55						
020	20			5,20			7,35			10,07	4	2,5	13,59			
022	22	6	4,5	5,46			7,72			10,59			14,29			
024	24	8	6,5	5,72	6	4,5	8,09			11,11			14,99			
026	26	10	8,5	5,98	8	6,5	8,46	6	4,5	11,63			15,69	4	2,7	24,55
028	28	12	10,5	6,23	10	8,5	8,83	8	6,5	12,15	6	4,5	16,38			25,66
030	30	14	12,5	6,49	12	10,5	9,20	10	8,5	12,67	8	6,5	17,08			26,78
032	32	16	14,5	6,75	14	12,5	9,57	12	10,5	13,19	10	8,5	17,78	6	4,5	27,87
034	34	18	16,5	7,01	16	14,5	9,94	14	12,5	13,71	12	10,5	18,48	8	6,5	28,96
036	36	20	18,5	7,27	18	16,5	10,31	16	14,5	14,23	14	12,5	19,17	10	8,5	30,05
038	38	22	20,5	7,53	20	18,5	10,68	18	16,5	14,75	16	14,5	19,87	12	10,5	31,14
040	40	24	22,5	7,79	22	20,5	11,05	20	18,5	15,27	18	16,5	20,57	14	12,5	32,23
042	42	26	24,5	8,05	24	22,5	11,42	22	20,5	15,79	20	18,5	21,27	16	14,5	33,32
044	44	28	26,5	8,31	26	24,5	11,79	24	22,5	16,31	22	20,5	21,96	18	16,5	34,40
046	46	30	28,5	8,57	28	26,5	12,16	26	24,5	16,83	24	22,5	22,66	20	18,5	35,49
048	48	32	30,5	8,83	30	28,5	12,53	28	26,5	17,35	26	24,5	23,36	22	20,5	36,58
050	50	34	32,5	9,09	32	30,5	12,90	30	28,5	17,88	28	26,5	24,06	24	22,5	37,67
052	52	36	34,5	9,34	34	32,5	13,26	32	30,5	18,40	30	28,5	24,76	26	24,5	38,76
054	54	38	36,5	9,60	36	34,5	13,63	34	32,5	18,92	32	30,5	25,45	28	26,5	39,85
056	56	40	38,5	9,86	38	36,5	14,00	36	34,5	19,44	34	32,5	26,15	30	28,5	40,93
058	58	42	40,5	10,12	40	38,5	14,37	38	36,5	19,96	36	34,5	26,85	32	30,5	42,02
060	60	44	42,5	10,38	42	40,5	14,74	40	38,5	20,48	38	36,5	27,55	34	32,5	43,11
062	62	46	44,5	10,64	44	42,5	15,11	42	40,5	21,00	40	38,5	28,24	36	34,5	44,20
064	64	48	46,5	10,90	46	44,5	15,48	44	42,5	21,52	42	40,5	28,94	38	36,5	45,29
066	66	50	48,5	11,16	48	46,5	15,85	46	44,5	22,04	44	42,5	29,64	40	38,5	46,38
068	68	52	50,5	11,42	50	48,5	16,22	48	46,5	22,56	46	44,5	30,34	42	40,5	47,46

(continued)

Table 2 (concluded)

Length code	N ± 0,3	Thread code														
		050			060			070			080			100		
		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)
070	70	54	52,5	11,68	52	50,5	16,59	50	48,5	23,08	48	46,5	31,03	44	42,5	48,55
072	72				54	52,5	16,96	52	50,5	23,60	50	48,5	31,73	46	44,4	49,64
074	74				56	54,5	17,33	54	52,5	24,12	52	50,5	32,43	48	46,5	50,73
076	76				58	56,5	17,70	56	54,5	24,64	54	52,5	33,13	50	48,5	51,82
078	78				60	58,5	18,07	58	56,5	25,17	56	54,5	33,82	52	50,5	52,90
080	80				62	60,5	18,44	60	58,5	25,69	58	56,5	34,52	54	52,5	53,99
082	82				64	62,5	18,81	62	60,5	26,21	60	58,5	35,22	56	54,5	55,08
084	84				66	64,5	19,18	64	62,5	26,73	62	60,5	35,92	58	56,5	56,17
086	86							66	64,5	27,25	64	62,5	36,62	60	58,5	57,26
088	88							68	66,5	27,77	66	64,5	37,31	62	60,5	58,35
090	90							70	68,5	28,29	68	66,5	38,01	64	62,5	59,43
092	92							72	70,5	28,81	70	68,5	38,71	66	64,5	60,52
094	94							74	72,5	29,33	72	70,5	39,41	68	66,5	61,61
096	96							76	74,5	29,85	74	72,5	40,10	70	68,5	62,70
098	98							78	76,5	30,37	76	74,5	40,80	72	70,5	63,79
100	100										78	76,5	41,50	74	72,5	64,88
104	104										82	80,5	42,89	78	76,5	67,05
108	108										86	84,5	44,29	82	80,5	69,23
112	112										90	88,5	45,68	86	84,5	71,41
116	116													90	88,5	73,58
120	120													94	92,5	75,76
124	124													98	96,5	77,93
128	128													102	110,5	80,11
132	132													106	104,5	82,29
136	136													110	108,5	84,46
140	140													114	112,5	86,64
144	144													118	116,2	88,82

1) Mass ≈ quoted in kg/1 000 parts