SLOVENSKI STANDARD
SIST EN 3832:2004

01-maj-2004

Aerospace series - Bolts, double hexagon head, relieved shank, long thread, in heat resisting nickel base alloy NI-P100HT (Inconel 718) - Classification: 1 550 MPa (at ambient temperature) / 650 °C

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Série aérospatiale - Vis a tete bihexagonale, fut dégagé, filetage long, en alliage résistant a chaud a base de nickel NI-P100HT (Inconel 718) - Classification:1 550 MPa (a température ambiante)/650°C

Ta slovenski standard je istoveten z: **EN 3832:2003**

ICS:

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

SIST EN 3832:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3832

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ICS 49.030.20

English version

Aerospace series - Bolts, double hexagon head, relieved shank, long thread, in heat resisting nickel base alloy NI-P100HT (Inconel 718) - Classification: 1 550 MPa (at ambient temperature) / 650 °C

This European Standard was approved by CEN on 2 June 2002.

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This European Standard exists 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 3832:2003) has been prepared by the European Association of Aerospace Manufacturers – Standardization (AECMA-STAN).

After enquiries 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of an identical text or by endorsement, at the latest by July 2003, and conflicting national standards shall be withdrawn at the latest by July 2003.

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

1 Scope and field of application

This standard specifies the characteristics of double hexagon headed bolts with relieved shank and long thread in NI-P100HT for aerospace applications.

Classification: 1 550 MPa [1] / 650 °C [2]

2 Normative references

ISO 3353 Aerospace - Rolled threads for bolts - Lead and Runout requirements

ISO 4095 Aerospace - Bihexagonal drives - Wrenching configuration - Metric series

ISO 5855-2 Aerospace - MJ threads - Part 2 : Limit dimensions for bolts and nuts

EN 2424 Aerospace series - Marking of aerospace products

EN 2952 Aerospace series - Heat resisting alloy NI-PH2601 - Solution treated and cold worked - Bar for forged fasteners - $D \leq 50$ mm - 1270 MPa $\leq R_m \leq$ 1550 MPa [3]

EN 3666 Aerospace series - Heat resisting alloy NI-PH2601 - Solution treated and cold worked - Bar for forged fasteners - $D \leq 50$ mm - 1550 MPa $\leq R_m \leq$ 1830 MPa [3]

EN 3833 Aerospace series - Bolts, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718) - Classification : 1 550 MPa (at ambient temperature) / 650 °C - Technical specification [3]

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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

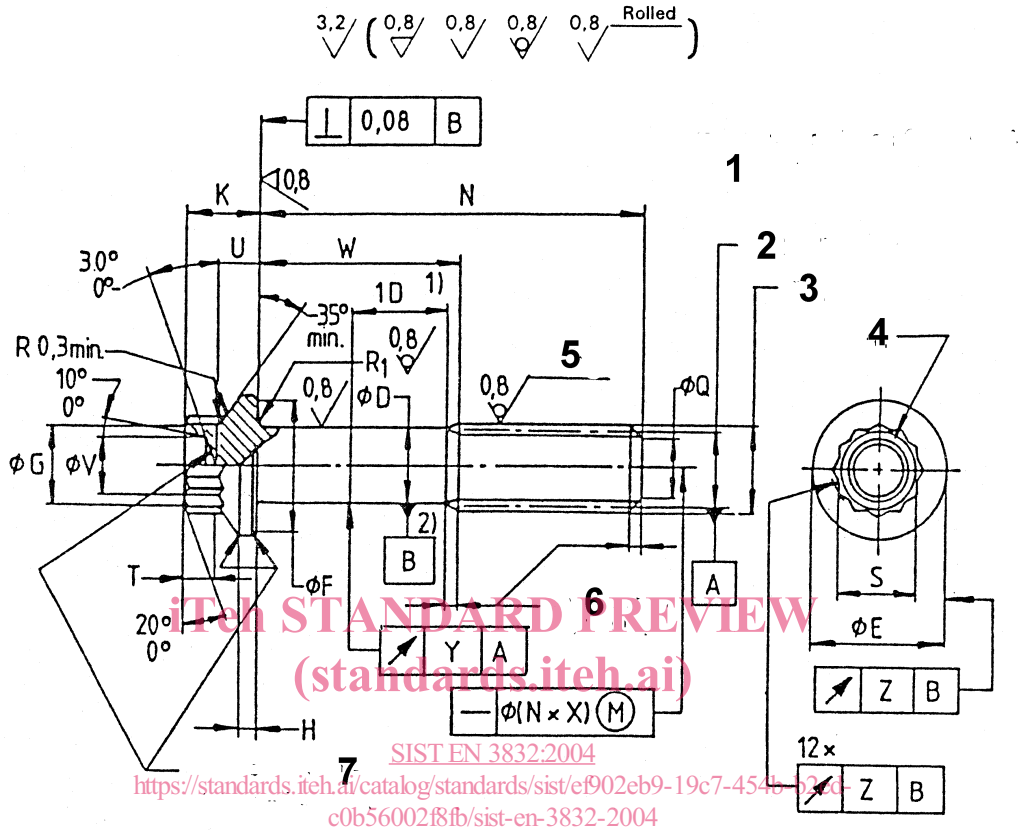
3 Required characteristics

3.1 Configuration - Dimensions - Tolerances – Masses

See figure 1 and tables 1 and 2. Dimensions and tolerances are in millimetres,

3.2 Material

EN 3666 or EN 2952 with exception of final heat treatment which shall meet EN 3666 (reference heat treatment and relating mechanical properties).



Key

1 Remove sharp edges 0,1 to 0,4
2 Pitch diameter
3 Thread
4 Marking
5 Rolled
6 Conforms to ISO 3353
7 Shape in this area at manufacturer's option

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

Filetage [1]		D	E	F	G	H	K	Q	R_1		S [2]	T	U		V		X	Y	Z
Code	Désignation	± 0,13	max.	min.	min.	min.	h15	±0,5	max.	min.		min.	max.	min.	max.	min.			
050	MJ 5x 0,8-4h6h	4,48	9,1	8,3	6,8	1	5,5	3,4	0,5	0,3	7	2	2,9	2,5	3,7	3,2		0,12	0,13
060	MJ 6x1-4h6h	5,35	10,6	9,8	7,8	1,2	6	4,2			8	2,3	3,2	2,8	4,6	4,1			0,15
070	MJ 7x1-4h6h	6,35	12,1	11,3	8,8	1,4	6,5	5,2	0,7	0,5	9	2,6	3,7	3,3	5,4	4,9	0,003		0,18
080	MJ 8x1-4h6h	7,35	13,6	12,8	9,8	1,6	7	6,2			10	2,8	4,1	3,7	5,7	5,2		0,15	0,2
100	MJ 10x1,25-4h6h	9,19	16,7	15,7	11,8	2	8	7,9	0,8	0,6	12	3,1	5,1	4,7	7,2	6,7			0,25
120	MJ 12x1,25-4h6h	11,19	19,9	18,8	13,7	2,4	9,2	9,8	0,9		14	3,5	6	5,6	8,5	8	0,0025	0,18	0,3

1) In accordance with ISO 5855-2.

2) Bihexagonal wrenching configuration in conformity with ISO 4095 over length T min.

Table 2

Length code	N ± 0,3	Thread code																	
		050			060			070			080			100			120		
		W		Mass	W		Mass	W		Mass	W		Mass	W		Mass	W		Mass
		max.	min.	1)	max.	min.	1)	max.	min.	1)	max.	min.	1)	max.	min.	1)	max.	min.	1)
008	8			3,26															
010	10			3,52			5,11			7,19			9,62						
012	12	2,1	1,7	3,78			5,48			7,71			10,32						
014	14			4,04	2,7	2,2	5,85	2,7	2,2	8,23	2,7	2,2	11,02			18,01			
016	16			4,29			6,22			8,75			11,71			19,10			29,41
018	18			4,55			6,59			9,27			12,41	3,3	2,7	20,19			31,03
020	20	4	2,5	4,81			6,95			9,79			13,11			21,28			32,64
022	22	6	4,5	5,07	4	2,5	7,32			10,31			13,81			22,37			34,25
024	24	8	6,5	5,33	6	4,5	7,69	4	2,5	10,83			14,51			23,45	3,4	2,8	35,87
026	26	10	8,5	5,59	8	6,5	8,06	6	4,5	11,36	4	2,5	15,20			24,54			37,48
028	28	12	10,5	5,85	10	8,5	8,43	8	6,5	11,88	6	4,5	15,90			25,63			39,10
030	30	14	12,5	6,11	12	10,5	8,80	10	8,5	12,40	8	6,5	16,60	4	2,7	26,72			40,71
032	32	16	14,5	6,37	14	12,5	9,17	12	10,5	12,92	10	8,5	17,30	6	4,5	27,81			42,32
034	34	18	16,5	6,63	16	14,5	9,54	14	12,5	13,44	12	10,5	17,99	8	6,5	28,90	4	2,8	43,94
036	36	20	18,5	6,89	18	16,5	9,91	16	14,5	13,96	14	12,5	18,69	10	8,5	29,98	6	4,5	45,55
038	38	22	20,5	7,15	20	18,5	10,28	18	16,5	14,48	16	14,5	19,39	12	10,5	31,07	8	6,5	47,17
040	40	24	22,5	7,40	22	20,5	10,65	20	18,5	15,00	18	16,5	20,09	14	12,5	32,16	10	8,5	48,78
042	42	26	24,5	7,66	24	22,5	11,02	22	20,5	15,52	20	18,5	20,78	16	14,5	33,25	12	10,5	50,40
044	44	28	26,5	7,92	26	24,5	11,39	24	22,5	16,04	22	20,5	21,48	18	16,5	34,34	14	12,5	52,01
046	46	30	28,5	8,18	28	26,5	11,76	26	24,5	16,56	24	22,5	22,18	20	18,5	35,43	16	14,5	53,62
048	48	32	30,5	8,44	30	28,5	12,13	28	26,5	17,08	26	24,5	22,88	22	20,5	36,51	18	16,5	55,24
050	50	34	32,5	8,70	32	30,5	12,50	30	28,5	17,60	28	26,5	23,57	24	22,5	37,60	20	18,5	56,85
052	52	36	34,5	8,96	34	32,5	12,87	32	30,5	18,12	30	28,5	24,27	26	24,5	38,69	22	20,5	58,47
054	54	38	36,5	9,22	36	34,5	13,24	34	32,5	18,65	32	30,5	24,97	28	26,5	39,78	24	22,5	60,08
056	56	40	38,5	9,48	38	36,5	13,61	36	34,5	19,17	34	32,5	25,67	30	28,5	40,87	26	24,5	61,69
058	58	42	40,5	9,74	40	38,5	13,98	38	36,5	19,69	36	34,5	26,36	32	30,5	41,96	28	26,5	63,31
060	60	44	42,5	10,00	42	40,5	14,35	40	38,5	20,21	38	36,5	27,06	34	32,5	43,04	30	28,5	64,92
062	62	46	44,5	10,26	44	42,5	14,72	42	40,5	20,73	40	38,5	27,76	36	34,5	44,13	32	30,5	66,54
064	64	48	46,5	10,51	46	44,5	15,09	44	42,5	21,25	42	40,5	28,46	38	36,5	45,22	34	32,5	68,15
066	66	50	48,5	10,77	48	46,5	15,46	46	44,5	21,77	44	42,5	29,16	40	38,5	46,31	36	34,5	69,76
068	68	52	50,5	11,03	50	48,5	15,83	48	46,5	22,29	46	44,5	29,85	42	40,5	47,40	38	36,5	71,38

1) Mass ≈ quoted in kg/1000 parts