SLOVENSKI STANDARD

SIST EN 3326:2008

01-marec-2008

Aeronavtika - Sorniki, glava D, ozka toleranca, srednja navojna dolžina, iz toplotnoodporne zlitine na nikljevi osnovi NI-PH2601 (INCO 718) - Klasifikacija: 1 275 MPa/650 °C, brez prevleke

Aerospace series - Bolts, D-head, close tolerance, medium thread length, in heat resisting nickel base alloy NI-PH2601 (INCO 718) - Classification: 1 275 MPa/650 °C, unplated

Luft- und Raumfahrt - D - Kopf - Paßschrauben, mittlere Gewindelänge, aus hochwarmfester Nickelbasislegierung NI-PH2601 (INCO 718) - Klasse: 1 275 MPa/650 °C, blank

Série aérospatiale - Vis de précision, à tête anti-rotation, à filetage moyen, en alliage résistant à chaud à base de nickel NI-PH2601 (INCO 718) - Classification: 1 275 MPa/650 °C, nu

Ta slovenski standard je istoveten z: **EN 3326:2007**

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EUROPEAN STANDARD

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English Version

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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 3326:2007) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-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 ASD, 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of an identical text or by endorsement, at the latest by June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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1 Scope

This standard specifies the dimensions of unplated D-head bolts, close tolerance, with MJ-thread, medium thread length, in heat resisting nickel base alloy NI-PH2601 to EN 2952 and EN 3219 for aerospace applications.

Maximum test temperature of the material is 650 °C.

These bolts are to be used in aerospace fastening systems mainly stressed in shearing force.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3353-1, *Aerospace — Lead and runout threads — Part 1: Rolled external threads*.

ISO 5855-1, *Aerospace — MJ threads — Part 1: General 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, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718) — Classification: 1 275 MPa (at ambient temperature) / 650 °C — Technical specification.*

EN 2952, *Aerospace series — Heat resisting alloy NI-PH2601 — Solution treated and cold worked — Bar for forged fasteners — D ≤ 50 mm — 1 270 MPa ≤ R_m ≤ 1 550 MPa.* [1]

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 ≤ D ≤ 30 mm.* [1]

3 Required characteristics

3.1 Configuration – Dimensions – Tolerances

Configuration shall be in accordance with the Figure 1.

Dimensions, tolerances and masses shall conform to the Figure 1 and the Tables 1 and 2.

Details of form, not stated are at the manufacturer's option.

3.2 Material

Heat resisting nickel base alloy NI-PH2601 to EN 2952 and EN 3219.

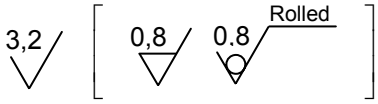
3.3 Surface treatment

None.

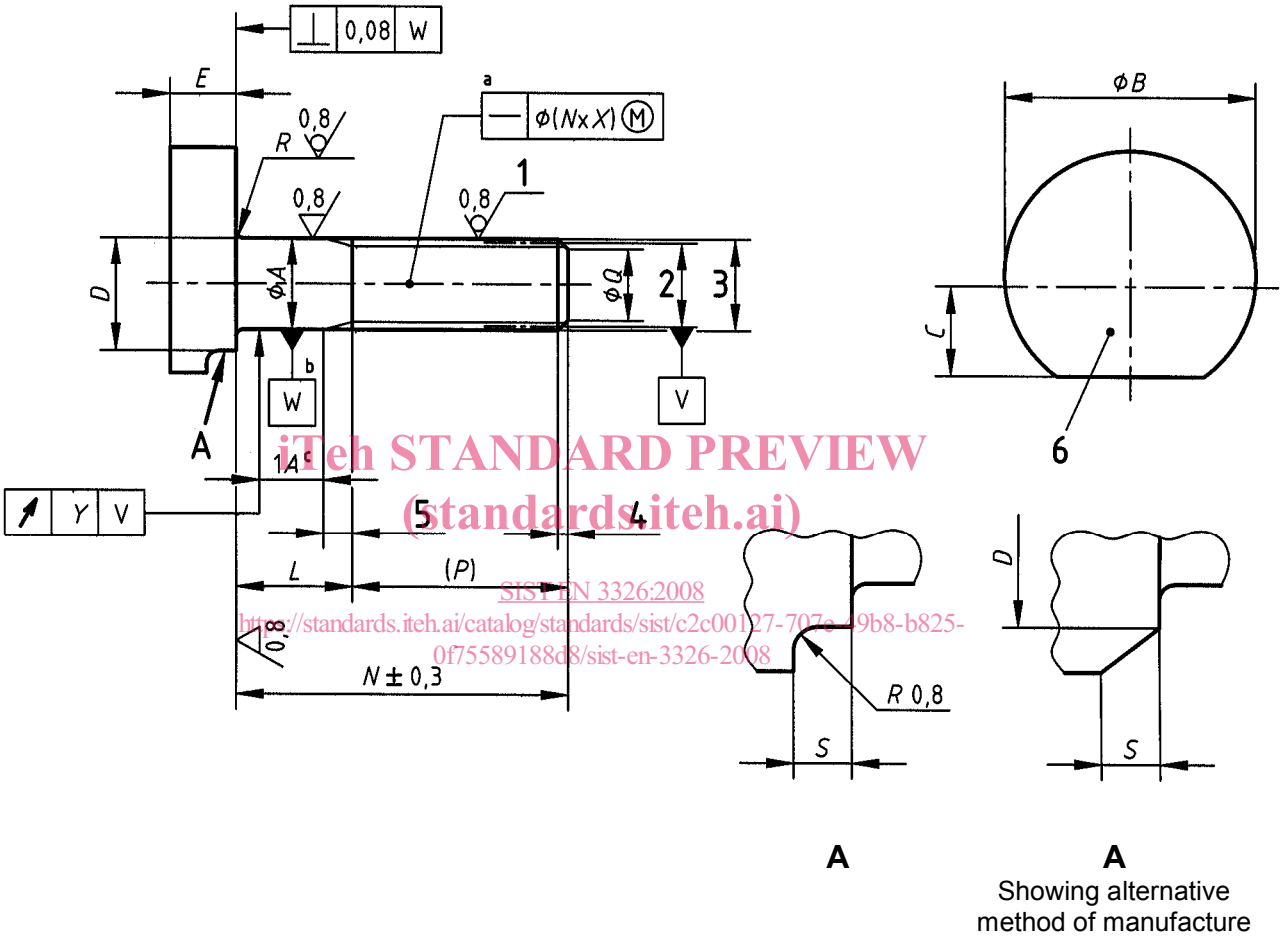
1) Published as ASD Prestandard at the date of publication of this standard.

3.4 Thread surface

See Figure 1.



Break sharp edges 0,1 mm to 0,4 mm.



Key

1 Rolled
2 Thread pitch Ø
3 Thread major diameter:
max.: actual shank diameter minus 0,025 mm
min.: minimal diameter defined by 6h tolerance (see Table 1)
4 Lead thread ISO 3353-1
5 Thread runout ISO 3353-1
6 Identity markings

a Total straightness with reference to nominal length N.

b For bolts having a shank length less than one time the nominal value of the shank diameter, A, the pitch diameter axis shall be used as datum.

c When the length of shank is less than one time the nominal value of the shank diameter, A, the runout is measured at a distance equal to half the actual shank length.

Figure 1 — Configuration

Table 1

Dimensions in millimetres

Diameter code	Description [a] [b]	$\varnothing A$	$\varnothing B$		C		D	
		f7	max.	min.	max.	min.	max.	min.
050	MJ5×0,8-4h6h	5	14,25	13,75	5,5	5,35	6,5	6,4
060	MJ6×1-4h6h	6	16,75	16,25	6,0	5,85	7,5	7,4
070	MJ7×1-4h6h	7	18,25	17,75	6,5	6,35	8,5	8,4
080	MJ8×1-4h6h	8	20,25	19,75	8,0	7,85	10,0	9,9
100	MJ10×1,25-4h6h	10	25,25	24,75	9,0	8,85	12,0	11,9

Diameter code	E		P	$\varnothing Q$	R		S		X	Y
	max.	min.		± 0,5	max.	min.	max.	min.		
050	4,05	3,55	12	3,5	0,5	0,3	1,6	1,3	0,003	0,12
060	4,25	3,75	14	4,2	0,7	0,5	1,9	1,6		
070			15	5,2						0,15
080	4,75	4,25	16,5	6,2			2,2	1,9		
100	5,25	4,75	20,5	7,9	0,8	0,6				

[a] According to ISO 5855-1 and ISO 5855-2.

[b] The tolerance on the thread major diameter has been modified as shown in the Figure 1.

Table 2

Dimensions in millimetres

Length code	L ± 0,2	Nominal diameter code									
		050		060		070		080		100	
		N ± 0,3	Mass [a]	N ± 0,3	Mass [a]	N ± 0,3	Mass [a]	N ± 0,3	Mass [a]	N ± 0,3	Mass [a]
003	3	16,5	6,98	18,5	10,15						
004	4	17,5	7,14	19,5	10,38	20,5	13,70	22	19,30		
005	5	18,5	7,30	20,5	10,61	21,5	14,01	23	19,71	26,5	36,27
006	6	19,5	7,46	21,5	10,84	22,5	14,33	24	20,13	27,5	36,92
007	7	20,5	7,62	22,5	11,07	23,5	14,64	25	20,54	28,5	37,57
008	8	21,5	7,78	23,5	11,31	24,5	14,96	26	20,95	29,5	38,21
009	9	22,5	7,94	24,5	11,54	25,5	15,28	27	21,37	30,5	38,86
010	10	23,5	8,10	25,5	11,77	26,5	15,59	28	21,78	31,5	39,50
011	11	24,5	8,26	26,5	12,00	27,5	15,91	29	22,19	32,5	40,15
012	12	25,5	8,43	27,5	12,23	28,5	16,22	30	22,61	33,5	40,79
013	13	26,5	8,59	28,5	12,47	29,5	16,54	31	23,02	34,5	41,44
014	14	27,5	8,75	29,5	12,70	30,5	16,86	32	23,43	35,5	42,08
015	15	28,5	8,91	30,5	12,93	31,5	17,17	33	23,84	36,5	42,73
016	16	29,5	9,07	31,5	13,16	32,5	17,49	34	24,26	37,5	43,38

continued

Table 2 *(continued)*

Length code	L ± 0,2	Nominal diameter code									
		050		060		070		080		100	
		N ± 0,3	Mass [a]	N ± 0,3	Mass [a]	N ± 0,3	Mass [a]	N ± 0,3	Mass [a]	N ± 0,3	Mass [a]
017	17	30,5	9,23	32,5	13,39	33,5	17,80	35	24,67	38,5	44,02
018	18	31,5	9,39	33,5	13,63	34,5	18,12	36	25,08	39,5	44,67
019	19	32,5	9,55	34,5	13,86	35,5	18,44	37	25,50	40,5	45,31
020	20	33,5	9,71	35,5	14,09	36,5	18,75	38	25,91	41,5	45,96
021	21	34,5	9,87	36,5	14,32	37,5	19,07	39	26,32	42,5	46,60
022	22	35,5	10,04	37,5	14,55	38,5	19,38	40	26,73	43,5	47,25
023	23	36,5	10,20	38,5	14,79	39,5	19,70	41	27,15	44,5	47,89
024	24	37,5	10,36	39,5	15,02	40,5	20,02	42	27,56	45,5	48,54
025	25	38,5	10,52	40,5	15,24	41,5	20,33	43	27,97	46,5	49,19
026	26	39,5	10,68	41,5	15,48	42,5	20,65	44	28,39	47,5	49,83
027	27	40,5	10,84	42,5	15,71	43,5	20,96	45	28,80	48,5	50,48
028	28	41,5	11,00	43,5	15,95	44,5	21,98	46	29,21	49,5	51,12
029	29	42,5	11,16	44,5	16,18	45,5	21,60	47	29,63	50,5	51,77
030	30	43,5	11,32	45,5	16,41	46,5	21,91	48	30,04	51,5	51,41
032	32	46,5	11,80	48,5	17,10	49,5	22,86	51	31,27	54,5	54,34
034	34	48,5	12,12	50,5	17,57	51,5	23,48	53	32,10	56,5	55,64
036	36	50,5	12,44	52,5	18,03	53,5	24,12	55	32,93	58,5	56,93
038	38	52,5	12,77	54,5	18,50	55,5	24,75	57	33,75	60,5	58,22
040	40	54,5	13,09	56,5	18,96	57,5	25,38	59	34,58	62,5	59,51
042	42	56,5	13,41	58,5	19,42	59,5	26,01	61	35,40	64,5	60,80
044	44	58,5	13,73	60,5	19,89	61,5	26,65	63	36,23	66,5	62,09
046	46	60,5	14,05	62,5	20,35	63,5	27,28	65	37,06	68,5	63,38
048	48	62,5	14,38	64,5	20,82	65,5	27,91	67	37,88	70,5	64,67
050	50	64,5	14,70	66,5	21,28	67,5	28,54	69	38,71	72,5	65,97
052	52			68,5	21,74	69,5	29,17	71	39,53	74,5	67,26
054	54			70,5	22,21	71,5	29,81	73	40,36	76,5	68,55
056	56			72,5	22,67	73,5	30,44	75	41,19	78,5	69,84
058	58			74,5	23,14	75,5	31,07	77	42,01	80,5	71,13
060	60			76,5	23,60	77,5	31,70	79	42,84	82,5	72,42
062	62					79,5	32,34	81	43,66	84,5	73,71
064	64					81,5	32,98	83	44,49	86,5	75,00
066	66					83,5	33,60	85	45,32	88,5	76,30
068	68					85,5	34,23	87	46,14	90,5	77,59
070	70					87,5	34,86	89	46,97	92,5	78,88
072	72							91	47,79	94,5	80,17
074	74							93	48,62	96,5	81,46

continued