

**SLOVENSKI STANDARD
SIST EN 3063:2001****01-januar-2001**

Aerospace series - Bolts, double hexagon head, close tolerance shank, medium length thread, in heat resisting nickel base alloy NI-P101HT (Waspaloy) - Classification: 1 210 MPa (at ambient temperature) / 730°C

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Luft- und Raumfahrt - Zwölfkant-Paßschrauben, mittlere Gewindelänge, aus hochwarmfester Nickelbasislegierung NI-P101HT (Waspaloy) - Klasse: 1 210 MPa (bei Raumtemperatur) / 730 °C

Série aérospatiale - Vis à tête bihexagonale, tige à tolérance serrée, filetage moyen, en alliage résistant à chaud à base nickel NI-P101HT (Waspaloy) - Classification: 1 210 MPa (à température ambiante) / 730 °C

Ta slovenski standard je istoveten z: EN 3063:1994

ICS:

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

SIST EN 3063:2001**en**

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EUROPEAN STANDARD

EN 3063

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1994

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Descriptors: Aircraft industry, fastener, screw, double hexagonal head screw, heat resistant steel, alloy steel, nickel alloy, classification, characteristic, dimension, screw thread, code, designation, marking

English version

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close tolerance shank, medium length thread, in
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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

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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 member countries of AECMA, prior to its presentation to CEN.

This standard was submitted for Formal Vote, and the result was positive.

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of an identical text or by endorsement, at the latest by February 1995, and conflicting national standards shall be withdrawn at the latest by February 1995.

According to the CEN/CENELEC Internal Regulations, 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, United Kingdom.

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1 Scope

This standard specifies the characteristics of double hexagon headed bolts with close tolerance shank and medium length thread, in NI-P101HT, for aerospace applications.

Classification : 1 210 MPa ¹⁾ / 730 °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 4095 Fasteners for aerospace construction - Bi-hexagonal wrenching configuration
- ISO 5855-2 Aerospace construction - MJ threads - Part 2 : Limit dimensions for bolts and nuts
- EN 2424 Aerospace series - Marking of aerospace products ³⁾
- EN 2582 Aerospace series - Bolts in heat resisting nickel base alloy NI-P101HT (Waspaloy) - Classification : 1 210 MPa / 730 °C - Technical specification ⁴⁾
- EN 2959 Aerospace series - Heat resisting nickel base alloy (NI-P101HT) - Solution treated and cold worked - Bar for hot upset forging for fasteners - $3 \leq D \leq 30$ mm ⁴⁾
- EN 3220 Aerospace series - Heat resisting nickel base alloy (NI-P101HT) - Cold worked and softened - Bar and wire for continuous forging or extrusion for fasteners - $3 \leq D \leq 30$ mm ⁴⁾

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 Materials

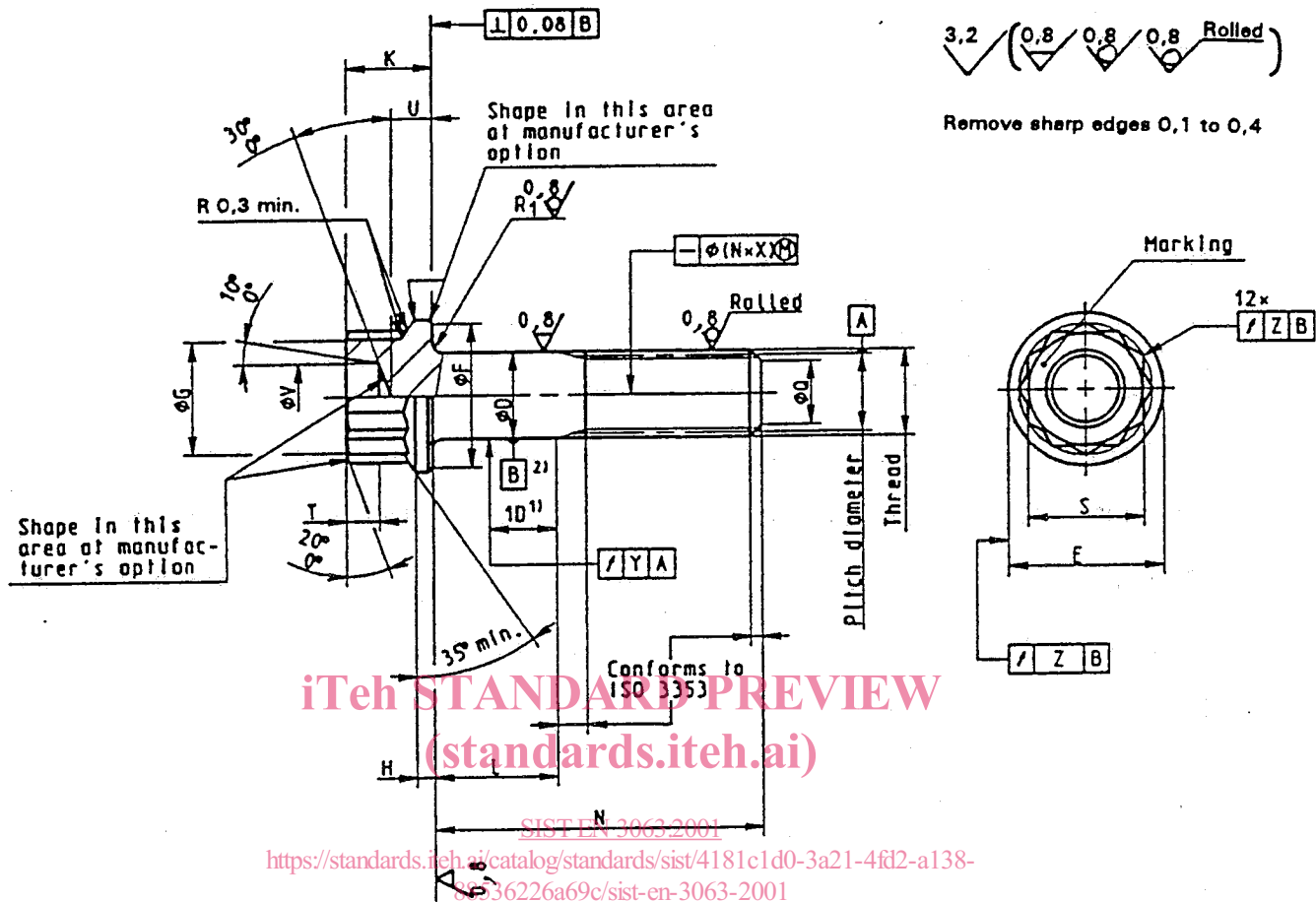
EN 2959 or EN 3220

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



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- 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 , the pitch diameter axis shall be used as the datum.

Figure 1

Table 1

Thread 1) 3)		D	E	F	G	H	K	Q	R_1		S 2)		T		U		V		X	Y	Z
Code	Designation	f7	max.	min.	min.	min.	h15	$\pm 0,5$	max.	min.	min.	min.	max.	min.	max.	min.	max.	min.			
050	MJ5x0,8-4h6h	5	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			0,002	0,12	0,13
060	MJ6x1-4h6h	6	10,6	9,8	7,8	1,2	6	4,2	0,7	0,5	8	2,3	3,2	2,8	4,6	4,1				0,15	
070	MJ7x1-4h6h	7	12,1	11,3	8,8	1,4	6,5	5,2			0,6	0,6	9	2,6	3,7	3,3	5,4	4,9			0,18
080	MJ8x1-4h6h	8	13,6	12,8	9,8	1,6	7	6,2	0,6	0,6			10	2,8	4,1	3,7	5,7	5,2			0,15
100	MJ10x1,25-4h6h	10	16,7	15,7	11,8	2	8	7,9			0,6	0,6	12	3,1	5,1	4,7	7,2	6,7			0,0015
120	MJ12x1,25-4h6h	12	19,9	18,8	13,7	2,4	9,2	9,8	0,6	0,6			14	3,5	6	5,6	8,5	8			0,18

1) In accordance with ISO 5855-2

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

3) The thread major diameter " d " shall be :

d max. = D min. - 0,025 ;

d min. : see ISO 5855-2.

Table 2 (concluded)

Length code	L ± 0,2	Thread code											
		050		060		070		080		100		120	
		N ± 0,3	Mass 1) ± 0,3	N ± 0,3	Mass 1) ± 0,3	N ± 0,3	Mass 1) ± 0,3	N ± 0,3	Mass 1) ± 0,3	N ± 0,3	Mass 1) ± 0,3	N ± 0,3	Mass 1) ± 0,3
042	42	54	10,40	56	15,30	57	21,19	58,5	28,75	62,5	47,87	64,5	72,79
044	44	56	10,72	58	15,77	59	21,82	60,5	29,57	64,5	49,17	66,5	74,66
046	46	58	11,05	60	16,24	61	22,46	62,5	30,40	66,5	50,46	68,5	76,52
048	48	60	11,37	62	16,70	63	23,09	64,5	31,23	68,5	51,76	70,5	78,39
050	50	62	11,69	64	17,17	65	23,73	66,5	32,06	70,5	53,05	72,5	80,25
052	52	66		67	17,63	68,5	24,36	70,5	32,89	72,5	54,35	74,5	82,12
054	54	68		69	18,10	70,5	25,00	72,5	33,72	74,5	55,64	76,5	83,98
056	56	70		71	18,57	72,5	25,63	74,5	34,55	76,5	56,94	78,5	85,85
058	58	72		73	19,03	74,5	26,27	76,5	35,38	78,5	58,23	80,5	87,71
060	60	74		75	19,50	76,5	26,90	78,5	36,21	80,5	59,53	82,5	89,58
062	62			77		77	27,54	78,5	37,04	82,5	60,82	84,5	91,44
064	64			79		79	28,17	80,5	37,86	84,5	62,12	86,5	93,31
066	66			81		81	28,80	82,5	38,69	86,5	63,41	88,5	95,17
068	68			83		83	29,44	84,5	39,52	88,5	64,71	90,5	97,04
070	70			85		85	30,07	86,5	40,35	90,5	66,00	92,5	98,90
072	72							88,5	41,18	92,5	67,30	94,5	100,77
074	74							90,5	42,01	94,5	68,59	96,5	102,63
076	76							92,5	42,84	96,5	69,89	98,5	104,50
078	78							94,5	43,67	98,5	71,18	100,5	106,36
080	80							96,5	44,49	100,5	72,48	102,5	108,23
082	82							102,5	73,77	102,5	73,77	104,5	110,09
084	84							104,5	75,07	104,5	75,07	106,5	111,96
086	86							106,5	76,36	106,5	76,36	108,5	113,82
088	88							108,5	77,66	108,5	77,66	110,5	115,69
090	90							110,5	78,95	110,5	78,95	112,5	117,55
092	92							112,5	80,25	112,5	80,25	114,5	119,42
094	94							114,5	81,54	114,5	81,54	116,5	121,28
096	96							116,5	82,84	116,5	82,84	118,5	123,15
098	98							118,5	84,13	118,5	84,13	120,5	125,01
100	100							120,5	85,43	120,5	85,43	122,5	126,88
104	104											126,5	130,61
108	108											130,5	134,34
112	112											134,5	138,07
116	116											138,5	141,80
120	120											142,5	145,53

1) Mass ≈ quoted in kg/1 000 parts