

**SLOVENSKI STANDARD
SIST EN 3379:2001****01-januar-2001**

Aerospace series - Bolts, double hexagon head, close tolerance shank, medium length thread, in heat resisting nickel base alloy NI-P101HT (Waspaloy), for increased height nuts - 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), für hohe Muttern - Klasse: 1 210 MPa (bei Raumtemperatur)/730°C

[SIST EN 3379:2001](https://standards.iteh.ai/catalog/standards/sist/5f1cd3c2-752e-4f0b-9c31-62a01e519e33/en)

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

Ta slovenski standard je istoveten z: EN 3379:1996

ICS:

49.030.30 Matice Nuts

SIST EN 3379:2001 en

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EUROPEAN STANDARD

EN 3379

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1996

ICS 49.040.20

Descriptors: aircraft industry, double hexagonal head screw, nickel alloy, heat resisting material, classification, dimension, designation

English version

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

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

1 Scope

This standard specifies the characteristics of double hexagon headed bolts with close tolerance shank and medium length thread, in NI-P101HT, for increased height nuts, 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 - MJ threads - Part 2 : Limit dimensions for bolts and nuts |
| EN 2424 | Aerospace series - Marking of aerospace products |
| EN 2582 | Aerospace series - Bolts in heat resisting nickel base alloy NI-P101HT (Waspaloy) - Classification : 1 210 MPa / 730 °C - Technical specification ³⁾ |
| 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 ³⁾ |
| 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 ³⁾ |

3 Required characteristics

3.1 Configuration - Dimensions - Tolerances - Masses

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

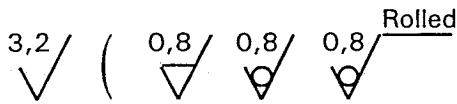
3.2 Materials

EN 2959 or EN 3220

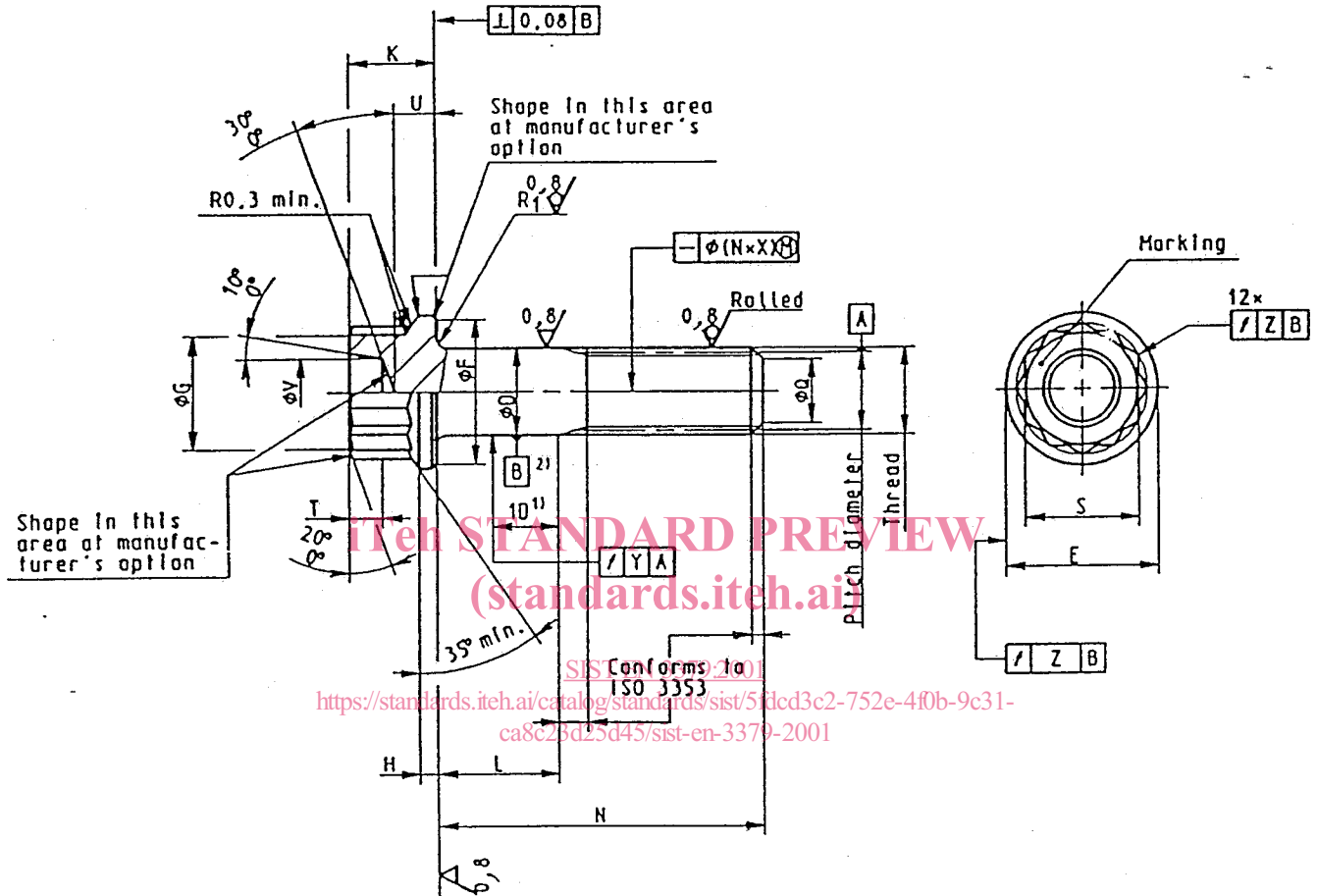
1) Minimum tensile strength of the material at ambient temperature

2) Maximum test temperature of the parts

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



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 , 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 | ± 0,5 | max. | min. | 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 | 0,18 |
| 070 | MJ7x1-4h6h | 7 | 12,1 | 11,3 | 8,8 | 1,4 | 6,5 | 5,2 | | | 9 | 2,6 | 3,7 | 3,3 | 5,4 | 4,9 | | | | | |
| 080 | MJ8x1-4h6h | 8 | 13,6 | 12,8 | 9,8 | 1,6 | 7 | 6,2 | 0,6 | 0,5 | 10 | 2,8 | 4,1 | 3,7 | 5,7 | 5,2 | 0,0015 | 0,25 | | | |
| 100 | MJ10x1,25-4h6h | 10 | 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 | 0,18 |
| 120 | MJ12x1,25-4h6h | 12 | 19,9 | 18,8 | 13,7 | 2,4 | 9,2 | 9,8 | 0,9 | 0,6 | 14 | 3,5 | 6 | 5,6 | 8,5 | 8 | | | | | |

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

| Length code | L $\pm 0,2$ | Thread code | | | | | | | | | | | |
|-------------|------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|
| | | 050 | | 060 | | 070 | | 080 | | 100 | | 120 | |
| | | N $\pm 0,3$ | Mass ¹⁾ | N $\pm 0,3$ | Mass ¹⁾ | N $\pm 0,3$ | Mass ¹⁾ | N $\pm 0,3$ | Mass ¹⁾ | N $\pm 0,3$ | Mass ¹⁾ | N $\pm 0,3$ | Mass ¹⁾ |
| 003 | 3 | 18 | 4,46 | 20 | 6,75 | 22 | 9,91 | 23 | 13,86 | | | | |
| 004 | 4 | 19 | 4,63 | 21 | 6,99 | 23 | 10,23 | 24 | 14,28 | 27 | 24,72 | | |
| 005 | 5 | 20 | 4,79 | 22 | 7,22 | 24 | 10,55 | 25 | 14,69 | 28 | 25,37 | 31 | 41,24 |
| 006 | 6 | 21 | 4,95 | 23 | 7,45 | 25 | 10,86 | 26 | 15,11 | 29 | 26,02 | 32 | 42,17 |
| 007 | 7 | 22 | 5,12 | 24 | 7,68 | 26 | 11,18 | 27 | 15,52 | 30 | 26,67 | 33 | 43,10 |
| 008 | 8 | 23 | 5,27 | 25 | 7,92 | 27 | 11,50 | 28 | 15,94 | 31 | 27,31 | 34 | 44,03 |
| 009 | 9 | 24 | 5,44 | 26 | 8,15 | 28 | 11,82 | 29 | 16,35 | 32 | 27,96 | 35 | 44,97 |
| 010 | 10 | 25 | 5,60 | 27 | 8,38 | 29 | 12,13 | 30 | 16,76 | 33 | 28,61 | 36 | 45,90 |
| 011 | 11 | 26 | 5,76 | 28 | 8,62 | 30 | 12,45 | 31 | 17,18 | 34 | 29,26 | 37 | 46,83 |
| 012 | 12 | 27 | 5,92 | 29 | 8,85 | 31 | 12,77 | 32 | 17,59 | 35 | 29,91 | 38 | 47,77 |
| 013 | 13 | 28 | 6,08 | 30 | 9,09 | 32 | 13,09 | 33 | 18,01 | 36 | 30,55 | 39 | 48,70 |
| 014 | 14 | 29 | 6,25 | 31 | 9,32 | 33 | 13,40 | 34 | 18,42 | 37 | 31,20 | 40 | 49,63 |
| 015 | 15 | 30 | 6,41 | 32 | 9,55 | 34 | 13,72 | 35 | 18,84 | 38 | 31,85 | 41 | 50,57 |
| 016 | 16 | 31 | 6,57 | 33 | 9,78 | 35 | 14,04 | 36 | 19,25 | 39 | 32,50 | 42 | 51,50 |
| 017 | 17 | 32 | 6,73 | 34 | 10,02 | 36 | 14,36 | 37 | 19,67 | 40 | 33,15 | 43 | 52,43 |
| 018 | 18 | 33 | 6,89 | 35 | 10,25 | 37 | 14,67 | 38 | 20,08 | 41 | 33,79 | 44 | 53,36 |
| 019 | 19 | 34 | 7,06 | 36 | 10,48 | 38 | 14,99 | 39 | 20,50 | 42 | 34,44 | 45 | 54,30 |
| 020 | 20 | 35 | 7,22 | 37 | 10,72 | 39 | 15,31 | 40 | 20,91 | 43 | 35,09 | 46 | 55,23 |
| 021 | 21 | 36 | 7,38 | 38 | 10,95 | 40 | 15,63 | 41 | 21,33 | 44 | 35,74 | 47 | 56,16 |
| 022 | 22 | 37 | 7,54 | 39 | 11,18 | 41 | 15,94 | 42 | 21,74 | 45 | 36,39 | 48 | 57,10 |
| 023 | 23 | 38 | 7,70 | 40 | 11,42 | 42 | 16,26 | 43 | 22,16 | 46 | 37,03 | 49 | 58,03 |
| 024 | 24 | 39 | 7,87 | 41 | 11,65 | 43 | 16,58 | 44 | 22,57 | 47 | 37,68 | 50 | 58,96 |
| 025 | 25 | 40 | 8,03 | 42 | 11,88 | 44 | 16,90 | 45 | 22,98 | 48 | 38,33 | 51 | 59,90 |
| 026 | 26 | 41 | 8,19 | 43 | 12,12 | 45 | 17,21 | 46 | 23,40 | 49 | 38,98 | 52 | 60,83 |
| 027 | 27 | 42 | 8,35 | 44 | 12,35 | 46 | 17,53 | 47 | 23,81 | 50 | 39,63 | 53 | 61,76 |
| 028 | 28 | 43 | 8,51 | 45 | 12,58 | 47 | 17,85 | 48 | 24,23 | 51 | 40,27 | 54 | 62,70 |
| 029 | 29 | 44 | 8,68 | 46 | 12,82 | 48 | 18,17 | 49 | 24,64 | 52 | 40,92 | 55 | 63,63 |
| 030 | 30 | 45 | 8,84 | 47 | 13,05 | 48 | 19,06 | 52 | 25,82 | 55 | 42,76 | 58 | 66,30 |
| 032 | 32 | 48 | 9,29 | 50 | 13,70 | 51 | 19,69 | 54 | 26,65 | 57 | 44,06 | 60 | 68,17 |
| 034 | 34 | 50 | 9,61 | 52 | 14,17 | 53 | 20,33 | 56 | 27,48 | 59 | 45,35 | 62 | 70,03 |
| 036 | 36 | 52 | 9,94 | 54 | 14,63 | 55 | 20,96 | 58 | 28,31 | 61 | 46,65 | 64 | 71,90 |
| 038 | 38 | 54 | 10,26 | 56 | 15,10 | 57 | | | | | | | |

(continued)

Table 2 (concluded)

| Length code | L ± 0,2 | Thread code | | | | | | | | | | | |
|-------------|------------|-------------|--------------------|------------|--------------------|------------|--------------------|------------|--------------------|------------|--------------------|------------|--------------------|
| | | 050 | | 060 | | 070 | | 080 | | 100 | | 120 | |
| | | N ± 0,3 | Mass ¹⁾ | N ± 0,3 | Mass ¹⁾ | N ± 0,3 | Mass ¹⁾ | N ± 0,3 | Mass ¹⁾ | N ± 0,3 | Mass ¹⁾ | N ± 0,3 | Mass ¹⁾ |
| 040 | 40 | 56 | 10,59 | 58 | 15,57 | 59 | 21,60 | 60 | 29,14 | 63 | 47,94 | 66 | 73,76 |
| 042 | 42 | 58 | 10,91 | 60 | 16,03 | 61 | 22,23 | 62 | 29,97 | 65 | 49,24 | 68 | 75,63 |
| 044 | 44 | 60 | 11,23 | 62 | 16,50 | 63 | 22,87 | 64 | 30,80 | 67 | 50,54 | 70 | 77,50 |
| 046 | 46 | 62 | 11,56 | 64 | 16,97 | 65 | 23,50 | 66 | 31,63 | 69 | 51,83 | 72 | 79,36 |
| 048 | 48 | 64 | 11,88 | 66 | 17,43 | 67 | 24,14 | 68 | 32,45 | 71 | 53,13 | 74 | 81,23 |
| 050 | 50 | 66 | 12,21 | 68 | 17,90 | 69 | 24,77 | 70 | 33,28 | 73 | 54,42 | 76 | 83,09 |
| 052 | 52 | | | 70 | 18,36 | 71 | 25,41 | 72 | 34,11 | 75 | 55,72 | 78 | 84,96 |
| 054 | 54 | | | 72 | 18,83 | 73 | 26,04 | 74 | 34,94 | 77 | 57,02 | 80 | 86,83 |
| 056 | 56 | | | 74 | 19,30 | 75 | 26,68 | 76 | 35,77 | 79 | 58,31 | 82 | 88,69 |
| 058 | 58 | | | 76 | 19,76 | 77 | 27,31 | 78 | 36,60 | 81 | 59,61 | 84 | 90,56 |
| 060 | 60 | | | 78 | 20,23 | 79 | 27,95 | 80 | 37,43 | 83 | 60,90 | 86 | 92,43 |
| 062 | 62 | | | 81 | 28,58 | 82 | 28,58 | 83 | 38,26 | 85 | 62,20 | 88 | 94,29 |
| 064 | 64 | | | 83 | 29,22 | 84 | 29,22 | 85 | 39,09 | 87 | 63,49 | 90 | 96,16 |
| 066 | 66 | | | 85 | 29,85 | 86 | 29,85 | 87 | 39,92 | 89 | 64,79 | 92 | 98,02 |
| 068 | 68 | | | 87 | 30,49 | 88 | 30,49 | 89 | 40,75 | 91 | 66,09 | 94 | 99,89 |
| 070 | 70 | | | 89 | 31,12 | 90 | 31,12 | 91 | 41,58 | 93 | 67,38 | 96 | 101,76 |
| 072 | 72 | | | | | 92 | 42,41 | 93 | 42,41 | 95 | 68,68 | 98 | 103,62 |
| 074 | 74 | | | | | 94 | 43,24 | 95 | 43,24 | 97 | 69,98 | 100 | 105,49 |
| 076 | 76 | | | | | 96 | 44,07 | 97 | 44,07 | 99 | 71,27 | 102 | 107,35 |
| 078 | 78 | | | | | 98 | 44,90 | 99 | 44,90 | 101 | 72,57 | 104 | 109,22 |
| 080 | 80 | | | | | 100 | 45,72 | 101 | 45,72 | 103 | 73,86 | 106 | 111,09 |
| 082 | 82 | | | | | | | 105 | 75,16 | 108 | 75,16 | 110 | 112,95 |
| 084 | 84 | | | | | | | 107 | 76,45 | 110 | 76,45 | 112 | 114,82 |
| 086 | 86 | | | | | | | 109 | 77,75 | 112 | 77,75 | 114 | 116,68 |
| 088 | 88 | | | | | | | 111 | 79,05 | 114 | 79,05 | 116 | 118,55 |
| 090 | 90 | | | | | | | 113 | 80,34 | 116 | 80,34 | 118 | 120,42 |
| 092 | 92 | | | | | | | 115 | 81,64 | 118 | 81,64 | 120 | 122,28 |
| 094 | 94 | | | | | | | 117 | 82,93 | 120 | 82,93 | 122 | 124,15 |
| 096 | 96 | | | | | | | 119 | 84,23 | 122 | 84,23 | 124 | 126,02 |
| 098 | 98 | | | | | | | 121 | 85,53 | 124 | 85,53 | 126 | 127,88 |
| 100 | 100 | | | | | | | 123 | 86,82 | 126 | 86,82 | 128 | 129,75 |
| 104 | 104 | | | | | | | | | | | 132 | 135,09 |
| 108 | 108 | | | | | | | | | | | 136 | 138,82 |
| 112 | 112 | | | | | | | | | | | 140 | 142,55 |
| 116 | 116 | | | | | | | | | | | 144 | 146,29 |
| 120 | 120 | | | | | | | | | | | 148 | 150,02 |

1) Mass ≈ quoted in kg/1 000 parts