ČESKÁ TECHNICKÁ NORMA

Letectví a kosmonautika – Samojistné dvojšestihránné matice (dvojité redukované), ze žáruvzdorné niklové slitiny NI-P101HT (Waspaloy), postříbřené – Třída: 1 210 MPa / 730 °C
Aerospace series - Nuts, self-locking, bi-hexagonal (double reduced), in heat resisting nickel base alloy - NI-P101HT (Waspaloy), silver plated, Classification: 1210 MPa/730 °C
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Foreword

This document (EN 3637:2008) 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of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

This standard specifies the dimensions of self-locking, silver-coated bi-hexagonal nuts with MJ-thread in heat resisting nickel base alloy NI-P101HT for aerospace applications.

Maximum test temperature of the material 730 °C.

2 References

EN 2424 Aerospace series — Marking of aerospace products

EN 2786 Aerospace series — Electrolytic silver plating of fasteners

EN 2959 Aerospace series — Heat resisting alloy Ni-PH1302 (NiCr20Co13Mo4Ti3Al) — Solution treated and cold worked — Bar for forged fasteners — 3 mm ≤ D ≤ 30 mm

EN 3005 Aerospace series — Nuts, self-locking, MJ threads, in heat resisting nickel base alloy NI-PH1302 (Waspaloy), silver plated or uncoated — Classification: 1 210 MPa (at ambient temperature)/730 °C — Technical specification

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 ≤ D ≤ 30 mm

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

ISO 5855-1 Aerospace — MJ threads — Part 1: General requirements

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

3 Required characteristics

3.1 Configuration – dimensions – tolerances

Configuration shall be in accordance with the figure; dimensions, tolerances and masses shall conform with the figure and the table. Details of form, not stated, are at the manufacturer’s option. Dimensions are after coating.

3.2 Material

Heat resisting nickel base alloy NI-P101HT to EN 2959 or EN 3220.

3.3 Surface treatment

Silver coat to EN 2786, coating thickness 5 µm to 15 µm.

On nuts MJ6 and larger, the coating thickness shall be not less than 5 µm, measured at the pitch diameter.

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

2) Published as ASD Prestandard at the date of publication of this standard.
MJ5 nuts shall show complete coating coverage on the threads.

Key
1. These values are to be applied before silver coating. Thread's surface will be achieved by normal methods of manufacture.
2. Bi-hexagonal wrenching configuration ISO 4095 on length M.
3. 6 Places.
4. Bearing surface may be flat or concave, but shall not be convex.
5. Remove sharp edges 0,1 to 0,4.
7. Self-locking feature at manufacturers option tool marks acceptable.
8. 30° to 45°.
9. 28° to 50°.
10. Marking on the flange.
11. 90° to 120°.
12. Ø D.

Figure 1 — Configuration

3. All forms of entry (radius or chamfer) optional within these limiting dimensions.
4. Thread in conformity with ISO 5855 part 1 and 2. In self-locking zone the tolerances apply before forming out of round.
Table 1 — Dimensions and masses

Dimensions in millimetres

<table>
<thead>
<tr>
<th>Code</th>
<th>Designation</th>
<th>E min</th>
<th>E max</th>
<th>F a max</th>
<th>H max</th>
<th>J max</th>
<th>K min</th>
<th>L min</th>
<th>L max</th>
<th>M b max</th>
<th>N max</th>
<th>y max</th>
<th>z max</th>
<th>Mass kg/1 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>050</td>
<td>MJ 5 x 0,8 – 4H6H</td>
<td>5,2</td>
<td>5,8</td>
<td>7</td>
<td>7</td>
<td>9,1</td>
<td>8,3</td>
<td>1,2</td>
<td>2</td>
<td>4,9</td>
<td>0,1</td>
<td>0,2</td>
<td></td>
<td>1,63</td>
</tr>
<tr>
<td>060</td>
<td>MJ 6 x 1,0 – 4H5H</td>
<td>6,3</td>
<td>7,1</td>
<td>8</td>
<td>8,1</td>
<td>10,6</td>
<td>9,8</td>
<td>1,2</td>
<td>2,3</td>
<td>5,5</td>
<td>0,1</td>
<td>0,2</td>
<td></td>
<td>2,33</td>
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<tr>
<td>070</td>
<td>MJ 7 x 1,0 – 4H5H</td>
<td>7,3</td>
<td>8,1</td>
<td>9</td>
<td>9,1</td>
<td>12,1</td>
<td>11,3</td>
<td>1,2</td>
<td>2,6</td>
<td>6,1</td>
<td>0,1</td>
<td>0,2</td>
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<td>3,19</td>
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<td>080</td>
<td>MJ 8 x 1,0 – 4H5H</td>
<td>8,3</td>
<td>9,1</td>
<td>10</td>
<td>10,4</td>
<td>13,6</td>
<td>12,8</td>
<td>1,2</td>
<td>2,8</td>
<td>6,9</td>
<td>0,1</td>
<td>0,2</td>
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<td>4,34</td>
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<td>100</td>
<td>MJ 10 x 1,25 – 4H5H</td>
<td>10,3</td>
<td>11,1</td>
<td>12</td>
<td>13</td>
<td>16,8</td>
<td>15,8</td>
<td>1,2</td>
<td>3,1</td>
<td>8,8</td>
<td>0,13</td>
<td>0,3</td>
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<td>7,69</td>
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<td>120</td>
<td>MJ 12 x 1,25 – 4H5H</td>
<td>12,3</td>
<td>13,1</td>
<td>14</td>
<td>15</td>
<td>19,9</td>
<td>18,8</td>
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<td>MJ 14 x 1,5 – 4H5H</td>
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<td>15,2</td>
<td>17</td>
<td>17,5</td>
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<td>4</td>
<td>12,6</td>
<td>0,13</td>
<td>0,3</td>
<td></td>
<td>19,79</td>
</tr>
</tbody>
</table>

a  Bi-hexagonal configuration in conformity with ISO 4095 over length "M".

b Wrench pad engagement.

4 Designation

Each bi-hexagonal nut shall only be designated as in the following example:

Description block Identity block
NUT EN 3637 - 050

Number of EN Standard
Thread code

NOTE If necessary, the design code I 9005 may be introduced between the description block and the identity block.

5 Marking

Each bi-hexagonal nut shall be marked in accordance to EN 2424, Class A.

6 Technical specification

The bi-hexagonal nuts shall conform to the requirements of EN 3005.
U p o z o r n ě n ĩ: Změny a doplňky, jakož i zprávy o nově vydaných normách jsou uveřejňovány ve Věstníku Úřadu pro technickou normalizaci, metrologii a státní zkušebnictví.

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