SLOVENSKI STANDARD
oSIST prEN ISO 8673:2016

01-junij-2016

Šestrobe matice (tip 1) z drobnim metrskim navojem - Razreda izdelave A in B (ISO/DIS 8673:2016)

Hexagon regular nuts (style 1), with fine pitch thread - Product grades A and B (ISO/DIS 8673:2016)

Écrous hexagonaux normaux (style 1), à pas fin - Grades A et B (ISO/DIS 8673:2016)

Ta slovenski standard je istoveten z: prEN ISO 8673

ICS:

21.040.10	Metrski navoji	Metric screw threads
21.060.20	Matice	Nuts

oSIST prEN ISO 8673:2016 **en,fr**

DRAFT INTERNATIONAL STANDARD

ISO/DIS 8673

ISO/TC **2**/SC **12**

Secretariat: **DIN**

Voting begins on:
2016-03-31

Voting terminates on:
2016-06-29

Hexagon regular nuts (style 1), with fine pitch thread — Product grades A and B

Écrous hexagonaux normaux (style 1) à filetage métrique à pas fin — Grades A et B

ICS: 21.060.20

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel three month enquiry.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Reference number
ISO/DIS 8673:2016(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 2, *Fasteners*, Subcommittee SC 12, *Fasteners with metric internal thread*.

This fourth edition cancels and replaces the third edition (ISO 8673:2012).

This standard differs from ISO 8673:2012 as follows:

— the Scope has been updated;

— threads M10x1,25 and M20x2 have been moved to preferred threads table;

— non-preferred threads have been completed;

— for steel nuts, quenching and tempering have been specified in accordance with ISO 898-2 as mandatory or optional;

— for steel nuts, the property class 10 has been extended to the whole diameter range;

— the reference to ISO/TR 16224 for nut design has been added;

— for stainless steel nuts, the property classes have been revised in accordance with diameter ranges;

— non-ferrous metal nuts have been deleted as a consequence of withdrawal of ISO 8839.

Hexagon regular nuts (style 1), with fine pitch thread — Product grades A and B

1 Scope

This International Standard specifies the characteristics of hexagon regular nuts (style 1) with fine pitch thread, with nominal diameter from 8 mm through 64 mm, with product grade A for nominal diameters $D \leq 16$ mm and product grade B for nominal diameters $D > 16$ mm.

2 Normative references

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

ISO 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions*

ISO 262, *ISO general purpose metric screw threads — Selected sizes for screws, bolts and nuts*

ISO 724, *ISO general-purpose metric screw threads — Basic dimensions*

ISO 898-2, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 2: Nuts with specified property classes — Coarse pitch thread and fine pitch thread*

ISO 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 3269, *Fasteners — Acceptance inspection*

ISO 3506-2, *Mechanical properties of corrosion-resistant stainless steel fasteners — Part 2: Nuts*

ISO 4042, *Fasteners — Electroplated coatings*

ISO 4759-1, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C*

ISO 6157-2, *Fasteners — Surface discontinuities — Part 2: Nuts*

ISO 8992, *Fasteners — General requirements for bolts, screws, studs and nuts*

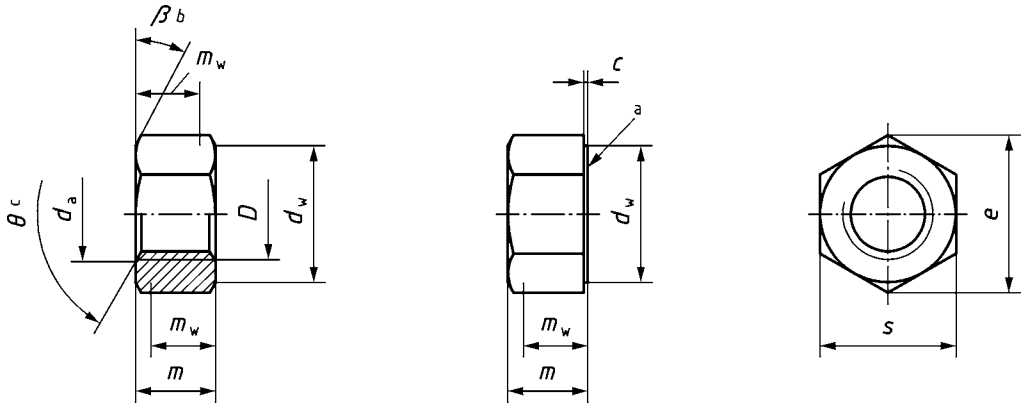
ISO 10683, *Fasteners — Non-electrolytically applied zinc flake coatings*

ISO 16048, *Passivation of corrosion-resistant stainless-steel fasteners*

3 Dimensions

See Figure 1 and Tables 1 and 2.

Symbols and descriptions of dimensions are specified in ISO 225.



[a] Unless otherwise specified at the time of order, the nuts are delivered without washer-face.

[b] $\beta = 15°$ to $30°$.

[c] $\theta = 90°$ to $120°$.

Figure 1 — Dimensions

Table 1 — Preferred threads

Dimensions in millimetres

Thread ($D \times P$)		M8×1,25	M10×1	M12×1,5	M16×1,5	M20×2	M24×2
c	max.	0,60	0,60	0,60	0,80	0,80	0,80
	min.	0,15	0,15	0,15	0,20	0,20	0,20
d_a	max.	8,75	10,80	13,00	17,30	21,60	25,90
	min.	8,00	10,00	12,00	16,00	20,00	24,00
d_w	min.	11,63	14,63	16,63	22,49	27,70	33,25
e	min.	14,38	17,77	20,03	26,75	32,95	39,55
m	max.	6,80	8,40	10,80	14,80	18,00	21,50
	min.	6,44	8,04	10,37	14,10	16,90	20,20
m_w	min.	5,15	6,43	8,30	11,28	13,52	16,16
s	nom. = max.	13,00	16,00	18,00	24,00	30,00	36,00
	min.	12,73	15,73	17,73	23,67	29,16	35,00
Thread ($D \times P$)		**M30×2**	**M36×3**	**M42×3**	**M48×3**	**M56×4**	**M64×4**
c	max.	0,80	0,80	1,00	1,00	1,00	1,00
	min.	0,20	0,20	0,30	0,30	0,30	0,30
d_a	max.	32,40	38,90	45,40	51,80	60,50	69,10
	min.	30,00	36,00	42,00	48,00	56,00	64,00
d_w	min.	42,75	51,11	59,95	69,45	78,66	88,16
e	min.	50,85	60,79	71,30	82,60	93,56	104,86
m	max.	25,60	31,00	34,00	38,00	45,00	51,00

	min.	24,30	29,40	32,40	36,40	43,40	49,10
m_w	min.	19,44	23,52	25,92	29,12	34,72	39,28
s	nom. = max.	46,00	55,00	65,00	75,00	85,00	95,00
	min.	45,00	53,80	63,10	73,10	82,80	92,80

Table 2 — Non-preferred threads

Dimensions in millimetres

Thread ($D \times P$)		**M10×1**	**M12×1,25**	**M14×1,5**	**M18×2**	**M18×1,5**	**M20×1,5**	**M22×2**
c	max.	0,60	0,60	0,60	0,80	0,80	0,80	0,80
	min.	0,15	0,15	0,15	0,20	0,20	0,20	0,20
d_a	max.	10,80	13,00	15,10	19,50	19,50	21,60	23,70
	min.	10,00	12,00	14,00	18,00	18,00	20,00	22,00
d_w	min.	14,63	16,63	19,64	24,85	24,85	27,70	31,35
e	min.	17,77	20,03	23,36	29,56	29,56	32,95	37,29
m	max.	8,40	10,80	12,80	15,80	15,80	18,00	19,40
	min.	8,04	10,37	12,10	15,10	15,10	16,90	18,10
m_w	min.	6,43	8,30	9,68	12,08	12,08	13,52	14,48
s	nom. = max.	16,00	18,00	21,00	27,00	27,00	30,00	34,00
	min.	15,73	17,73	20,67	26,16	26,16	29,16	33,00

Thread ($D \times P$)		**M22×1,5**	**M27×2**	**M33×2**	**M39×3**	**M45×3**	**M52×4**	**M60×4**
c	max.	0,80	0,80	0,80	1,00	1,00	1,00	1,00
	min.	0,20	0,20	0,20	0,30	0,30	0,30	0,30
d_a	max.	23,70	29,10	35,60	42,10	48,60	56,20	64,80
	min.	22,00	27,00	33,00	39,00	45,00	52,00	60,00
d_w	min.	31,35	38,00	46,55	55,86	64,70	74,19	83,41
e	min.	37,29	45,20	55,37	66,44	76,95	88,25	99,21
m	max.	19,40	23,80	28,70	33,40	36,00	42,00	48,00
	min.	18,10	22,50	27,40	31,80	34,40	40,40	46,40
m_w	min.	14,48	18,00	21,92	25,44	27,52	32,32	37,12
s	nom. = max.	34,00	41,00	50,00	60,00	70,00	80,00	90,00
	min.	33,00	40,00	49,00	58,80	68,10	78,10	87,80

4 Requirements and reference International Standards

See Table 3.

Table 3 — Requirements and reference International Standards

<table>
<tr><th colspan="2">Material</th><th>Steel</th><th>Stainless steel</th><th>Non-ferrous metal</th></tr>
<tr><td>General requirements</td><td>International Standard</td><td colspan="3">ISO 8992</td></tr>
<tr><td rowspan="2">Thread</td><td>Tolerance class</td><td colspan="3">6H[a]</td></tr>
<tr><td>International Standards</td><td colspan="3">ISO 262, ISO 724, ISO 965-2</td></tr>
<tr><td rowspan="4">Mechanical properties</td><td rowspan="3">Property class</td><td>8 mm ≤ D ≤ 16 mm 6[b], 8[c], 10[c]</td><td>8 mm ≤ D ≤ 24 mm A2-70, A4-70, A4-80</td><td rowspan="3">Mechanical properties as agreed</td></tr>
<tr><td>16 mm < D ≤ 39 mm 6[c], 8[c], 10[c]</td><td>24 mm < D ≤ 39 mm A2-50, A2-70, A4-70, A4-80</td></tr>
<tr><td>D < 8 mm and D > 39 mm Mechanical properties as agreed[d]</td><td>D < 8 mm and D > 39 mm Mechanical properties as agreed</td></tr>
<tr><td>International Standards</td><td>ISO 898-2</td><td>ISO 3506-2</td><td></td></tr>
<tr><td rowspan="2">Tolerance</td><td>Product grade</td><td colspan="3">D ≤ 16 mm: A
D > 16 mm: B</td></tr>
<tr><td>International Standard</td><td colspan="3">ISO 4759-1</td></tr>
<tr><td colspan="2" rowspan="2">Finish — Coating</td><td>As processed
Requirements for electroplating are specified in ISO 4042.
Requirements for non-electrolytically applied zinc flake coatings are specified in ISO 10683.</td><td>Clean and bright
A method for passivation is specified in ISO 16048.</td><td>As processed
Requirements for electroplating are specified in ISO 4042.</td></tr>
<tr><td colspan="3">Additional requirements or other finishes or coatings shall be agreed between the supplier and the purchaser.</td></tr>
<tr><td colspan="2">Surface integrity</td><td>Limits for surface discontinuities are specified in ISO 6157-2.</td><td>—</td><td>—</td></tr>
<tr><td colspan="2">Acceptability</td><td colspan="3">Acceptance inspection is specified in ISO 3269.</td></tr>
</table>

[a] Other tolerance classes may be specified prior to coating, depending on the type of coating to be applied. For coated nuts, see relevant coating standards, e.g. ISO 4042 and ISO 10683.

[b] May be quenched and tempered at the manufacturer's discretion, in accordance with ISO 898-2.

[c] Shall be quenched and tempered in accordance with ISO 898-2.

[d] See ISO/TR 16224 for information.

5 Designation

EXAMPLE A hexagon regular nut (style 1), with nominal diameter 16 mm, with fine pitch 1,5 mm and property class 8 is designated as follows:

Hexagon regular nut ISO 8673 – M16 × 1,5 – 8

