



SLOVENSKI STANDARD
SIST EN 1663:2001

01-julij-2001

Šestrobe zaščitne matice s plastičnim vložkom s poševnim krajcem (ISO 7043:1997, dopolnjen)

Prevailing torque type hexagon nuts with flange (with non-metallic insert) (ISO 7043:1997, modified)

Sechskantmuttern mit Klemmteil und Flansch (mit nichtmetallischem Einsatz) (ISO 7043:1997, modifiziert)

Ecrous hexagonaux a embase, autofreinés (avec anneau non métallique) (ISO 7043:1997, modifiée)

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Ta slovenski standard je istoveten z: EN 1663:1997

ICS:

21.060.20 Matice Nuts

SIST EN 1663:2001 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1663

December 1997

ICS 21.060.20

Descriptors: fasteners, nuts: fasteners, hexagonal nuts, flanged nuts, self locking nuts, metals, dimensions, dimensional tolerances, characteristics, verification, designation

English version

Prevailing torque type hexagon nuts with flange (with non-metallic insert) (ISO 7043:1997, modified)

Ecrous hexagonaux à embase, autofreinés (avec anneau non métallique) (ISO 7043:1997, modifiée)

Sechskantmuttern mit Klemmteil und Flansch (mit nichtmetallischem Einsatz) (ISO 7043:1997, modifiziert)

This European Standard was approved by CEN on 24 October 1997.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 185 "Threaded and non-threaded mechanical fasteners and accessories", the secretariat of which is held by DIN.

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 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 7043:1997 was approved by CEN as a European Standard with agreed common modifications given as below.

The dimensions of nuts correspond to those given in EN 1661 plus prevailing torque feature.

Nuts according to this European Standard corresponds to those specified in the International Standard ISO 7043 with the exception that the width across flats for M10 is 16 mm (instead of 15 mm) and that the property class 9 was deleted.

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1 Scope

This European Standard specifies the characteristics of prevailing torque type hexagon nuts with flange, with non-metallic annular insert and coarse threads from M5 to M20 inclusive, in product grade A for threads up to and including M16 and product grade B for threads above M16 and with property classes 8 and 10.

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.

EN 493

Fasteners – Surface discontinuities – Nuts

prEN ISO 2320

Prevailing torque type steel hexagon nuts – Mechanical and performance properties (ISO/DIS 2320 : 1994)

prEN ISO 4042

Fasteners – Electroplated coatings (ISO/DIS 4042 : 1996)

prEN ISO 4759-1

Tolerances for fasteners – Part 1: Bolts, screws, studs and nuts – Product grades A, B and C (ISO/DIS 4759-1 : 1997)

ISO 724

ISO general purpose metric screw threads – Basic dimensions

ISO 965-2

ISO general purpose metric screw threads – Tolerances – Part 2: Limits of sizes for general purpose bolt and nut threads – Medium quality

ISO 3269

Fasteners – Acceptance inspection

ISO 8992

Fasteners – General requirements for bolts, screws, studs and nuts

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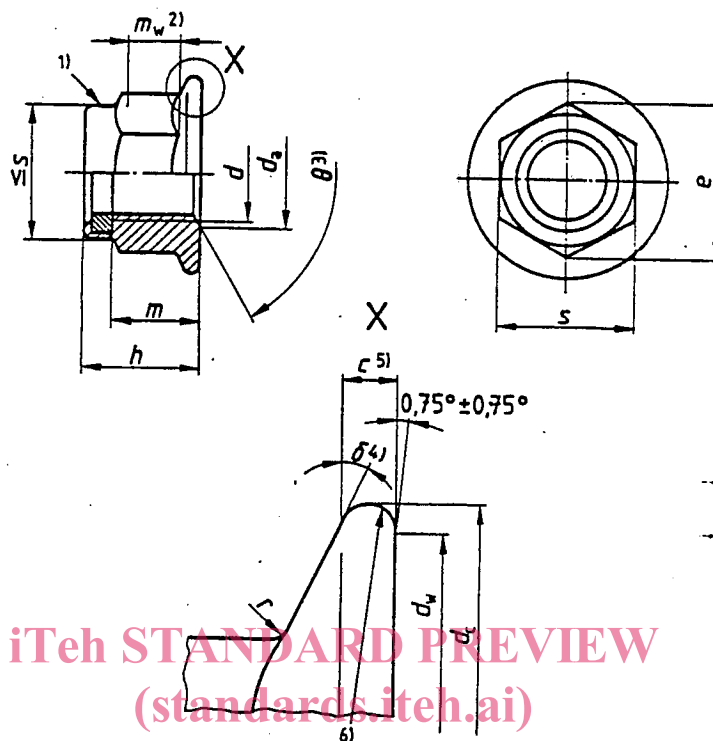
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3 Dimensions

Dimensions shall be in accordance with figure 1 and table 1.

NOTE 1: Symbols and designations of dimensions are specified in EN 20225.



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- 1) Prevailing torque element, shape optional.
- 2) m_w is the wrenching height; see note to table 1.
- 3) $\theta = 90^\circ$ to 120°
- 4) $\delta = 15^\circ$ to 25°
- 5) c is measured at $d_{w \min}$.
- 6) Edge contour optional.

Figure 1

Table 1

Dimensions in millimetres

Thread (d)	M5	M6	M8	M10	M12	(M14) ¹⁾	M16	M20	
$P^2)$	0,8	1	1,25	1,5	1,75	2	2	2,5	
c min.	1	1,1	1,2	1,5	1,8	2,1	2,4	3	
d_a	min.	5,00	6,00	8,00	10,0	12	14,0	16,0	20,0
	max.	5,75	6,75	8,75	10,8	13	15,1	17,3	21,6
d_c max.	11,8	14,2	17,9	21,8	26	29,9	34,5	42,8	
d_w min.	9,8	12,2	15,8	19,6	23,8	27,6	31,9	39,9	
e min.	8,79	11,05	14,38	17,77	20,03	23,36	26,75	32,95	
h	max.	7,10	9,10	11,1	13,5	16,1	18,2	20,3	24,8
	min.	6,52	8,52	10,4	12,8	15,4	16,9	19,0	22,7
$m^3)$ min.	4,7	5,7	7,6	9,6	11,6	13,3	15,3	18,7	
m_w min.	2,5	3,1	4,6	5,9	6,8	7,7	8,9	10,7	
s	max.	8,00	10,00	13,00	16,00	18,00	21,00	24,00	30,00
	min.	7,78	9,78	12,73	15,73	17,73	20,67	23,67	29,16
$r^4)$ max.	0,3	0,36	0,48	0,6	0,72	0,88	0,96	1,2	

¹⁾ The size in brackets should be avoided if possible.

²⁾ P is the pitch of the thread.

³⁾ Minimum thread height.

⁴⁾ Radius r applies both at the corners and the flats of the hexagon.

NOTE: If the product passes the gauging given in annex A, the requirements for dimensions e , c and m_w are satisfied.

4 Requirements and reference European or International Standards

The requirements given in table 2 apply.

If, in special cases, specifications other than those listed in this European Standard are required, they shall be selected, from existing European or International Standards, for example ISO 724, ISO 965-2, prEN ISO 2320, prEN ISO 4759-1.

Table 2

Material	Nut body	Steel		
	Insert	For example, polyamid		
General requirements	International Standard	ISO 8992		
Thread	Tolerance	6H		
	International Standards	ISO 724, ISO 965-2		
Mechanical and performance properties	Property class	8		10
	Style decisive for mechanical properties ¹⁾	$d \leq M16$ style 1	$d > M16$ style 2	style 1
	European Standard	prEN ISO 2320		
Tolerances	Product grade	For $d \leq M16$: A For $d > M16$: B		
	European Standard	prEN ISO 4759-1		
Finish	<p><small>SIST EN 1663:2001</small> https://standards.itech.ai/catalog/standards/sist/e17e5ee6-9252-44bf-875e-f20ef2fd101e/sist-en-1663-2001</p> <p>As processed</p> <p>Requirements for electroplated coatings are covered in prEN ISO 4042.</p> <p>If different electroplating requirements are desired or if requirements are needed for other finishes, they should be negotiated between customer and supplier.</p> <p>Limits for surface discontinuities are covered in EN 493.</p>			
Acceptability	For acceptance inspection ISO 3269 applies.			
<p>¹⁾ Based on the thread height (dimension m_{min}) nuts to this standard are of style 2. However, since for style 2 prEN ISO 2320 does not specify mechanical properties for all property classes and sizes as specified in this standard, in some cases nuts have to be tested according to style 1.</p>				

5 Designation

EXAMPLE:

Designation of a prevailing torque type hexagon nut with flange, with non-metallic insert, thread M12 and property class 8:

Hexagon nut EN 1663 – M12 – 8