
Šestrobe matice s poševnim krajcem (ISO/DIS 4161:1996, dopolnjen)

Hexagon nuts with flange (ISO/DIS 4161:1996, modified)

Sechskantmuttern mit Flansch (ISO/DIS 4161:1996, modifiziert)

Ecrous hexagonaux à embase cylindro-tronconique (ISO/DIS 4161:1996, modifiée)

Ta slovenski standard je istoveten z: EN 1661:1997**SIST EN 1661:2001**

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ICS:

21.060.20 Matice Nuts

SIST EN 1661:2001 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1661

December 1997

ICS 21.060.20

Descriptors: fasteners, nuts: fasteners, hexagonal units, flanged nuts, dimensions, dimensional tolerances, characteristics, verification, designation

English version

Hexagon nuts with flange (ISO/DIS 4161:1996, modified)

Ecrous hexagonaux à embase cylindro-tronconique
(ISO/DIS 4161:1996, modifiée)

Sechskantmuttern mit Flansch (ISO/DIS 4161:1996,
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/DIS 4161:1996 was approved by CEN as a European Standard with agreed common modifications given as below.

Nuts according to this European Standard corresponds to those specified in the Draft International Standard ISO/DIS 4161 : 1996 with the exception that the width across flats for M10 is 16 mm (instead of 15 mm) and that the property classe 9 was deleted.

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1 Scope

This European Standard specifies the characteristics of hexagon nuts with flange, with threads from M5 to M20 inclusive, of product grade A for threads up to and including M16 and product grade B for threads above M16 and with property classes 8, 10, 12 and A2-70.

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

EN 20898-2

Mechanical properties of fasteners – Part 2: Nuts with specified proof load values – Coarse thread (ISO 898-2 : 1992)

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

prEN ISO 3506-2

Mechanical properties of corrosion-resistant stainless-steel fasteners – Part 2: Nuts (ISO/DIS 3506-2 : 1995)

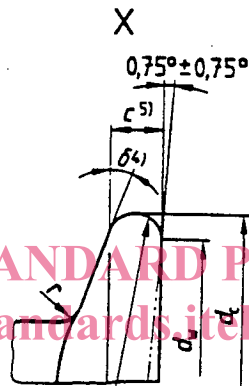
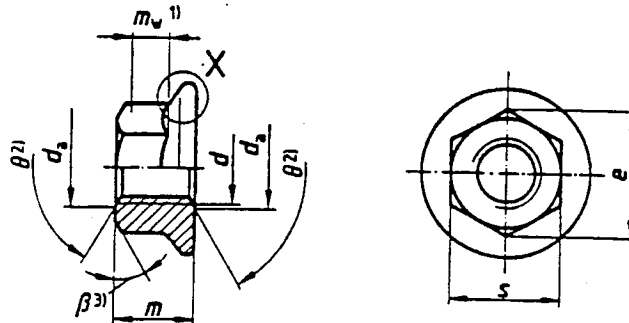
ISO 8992

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

3 Dimensions

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

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



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- 1) m_w is the wrenching height; see note to table 1.
- 2) $\theta = 90^\circ$ to 120°
- 3) $\beta = 15^\circ$ to 30°
- 4) $\delta = 15^\circ$ to 25°
- 5) c is measured at $d_{w \min}$.
- 6) Edge contour optimal.

Figure 1

Table 1

Dimensions in millimetres

Thread (d)		M5	M6	M8	M10	M12	(M14) ¹⁾	M16	M 20
$P^2)$		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	26,0	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
m	max.	5,0	6,0	8,00	10,00	12,00	14,0	16,0	20,0
	min.	4,7	5,7	7,64	9,64	11,57	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
$r^3)$	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⁾ 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.

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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, EN 20898-2, ISO 965-2, prEN ISO 3506-2.

Table 2

Material		Steel				Stainless steel	
General requirements	International Standard	ISO 8992					
	Tolerance	6H					
Thread	International Standards	ISO 724, ISO 965-2					
	Property class	8		10	12	A2-70	
Style decisive for mechanical properties ¹⁾	$d \leq M16$ style 1	$d > M16$ style 2	style 1	style 2			
Mechanical properties	European Standards	EN 20898-2				prEN ISO 3506-2	
	Product grade	$d \leq M16$: A $d > M16$: B					
Tolerances	European Standard	prEN ISO 4759-1					
	Finish	As processed				Plain	
Requirements for electroplating are covered in prEN ISO 4042. If different electroplating requirements are desired or if requirements are needed for other finishes, they should be negotiated between supplier and customer. Limits for surface discontinuities are covered in EN 493							
Acceptability		For acceptance inspection ISO 3269 applies.					

¹⁾ Based on the nut height (dimension m_{min}) nuts to this standard are of style 2. However, since for style 2 EN 20898-2 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.

5 Designation

EXAMPLE:

Designation of a hexagon nut with flange, with thread M12 and property class 10:

Hexagon nut EN 1661 - M12 - 10