

Hexagon domed cap nuts

DIN
1587

ICS 21.060.20

Supersedes
February 2000 edition.

Sechskant-Hutmuttern, hohe Form

*In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.***Foreword**

This standard has been prepared by Technical Committee *Schrauben und Muttern mit Außenantrieb* of the *Normenausschuss Mechanische Verbindungselemente* (Fasteners Standards Committee).

Amendments

This standard differs from the February 2000 edition in that the designation has been amended by including the width across flats for sizes M10, M12, M14 and M22 (cf. clause 5)

Previous editions

DIN KrK 127 to DIN KrK 130: 1925-10; DIN Kr 801: 1934-10; DIN Kr 802: 1934-10; DIN Kr 803: 1934-10; DIN 1587: 1924-07, 1934-12, 1943-11, 1953-10, 1963x-03, 1970-12, 1977-04, 1987-06, 2000-02.

All dimensions are in millimetres.

1 Scope

This standard specifies dimensions and technical delivery conditions for sizes M4 to M24 coarse and fine pitch thread hexagon domed cap nuts of product grades A and B.

2 Normative references

This 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 titles of the publications are listed below. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

DIN 13-15	ISO metric screw threads – Fundamental deviations and tolerances for screw threads of 1 mm diameter and larger
DIN 76-1	Thread run-outs and thread undercuts for ISO metric screw threads in accordance with the DIN 13 series
DIN 267-2	Fasteners – Technical delivery conditions – Product grades and tolerances
DIN 267-10	Fasteners – Technical delivery conditions – Hot-dip galvanized components
DIN 4000-2	Tabular layouts of article characteristics for bolts, screws and fit bolts
DIN EN 493	Fasteners – Surface discontinuities – Nuts
DIN EN 20898-2	Mechanical properties of fasteners – Part 2: Nuts with coarse pitch thread and specified proof load values (ISO 898-2 : 1992)
DIN EN 28839	Mechanical properties of fasteners – Bolts, screws, studs and nuts made of non-ferrous metals (ISO 8839 : 1986)
DIN EN ISO 898-6	Mechanical properties of fasteners – Part 6: Nuts with fine pitch thread and specified proof load values (ISO 898-6 : 1994)

Continued on pages 2 to 5.

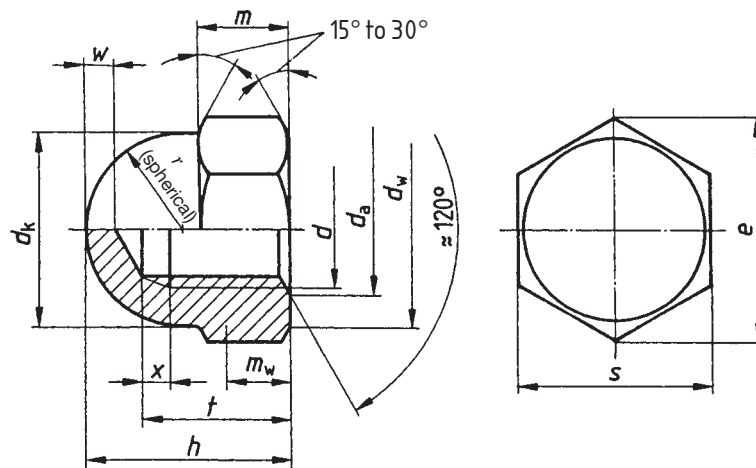
Translation by DIN-Sprachendienst.

In case of doubt, the German-language original should be consulted as the authoritative text.

DIN EN ISO 3269	Fasteners – Acceptance inspection (ISO/DIS 3269:1998)*)
DIN EN ISO 3506-2	Mechanical properties of corrosion-resistant stainless steel fasteners – Part 2: Nuts (ISO 3506-2 : 1997)
DIN EN ISO 4042	Fasteners – Electroplated coatings (ISO 4042 : 1999)
DIN EN ISO 4759-1	Tolerances for fasteners – Part 1: Bolts, screws, studs and fit bolts – Product grades A, B and C (ISO/DIS 4759-1 : 1997)*)
DIN EN ISO 10683	Fasteners – Non-electrically applied zinc flake coatings (ISO/DIS 10683 : 1999)*)
ISO 8992 : 1986	Fasteners – General requirements for bolts, screws, studs and fit bolts

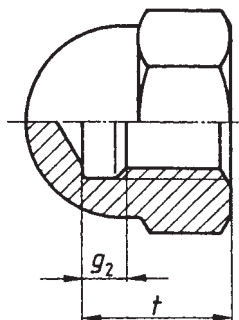
3 Dimensions

Nut dimensions shall be as given in figures 1 and 2 and table 1.



m_w is the minimum wrenching height.

Figure 1: Nut dimensions for sizes up to M10 (notation)
(with thread run-out or thread undercut, at the manufacturer's discretion)



Other dimensions as in figure 1.

Figure 2: Nut dimensions for sizes M12 and above (notation)
(with thread undercut)

*) Currently at draft stage.

Table 1: Nut dimensions

Thread size (<i>d</i>)	Series 1		M4	M5	M6	M8	M10	M12	(M14)	M16	(M18)	M20	(M22)	M24	
	Series 2		–	–	–	M8 × 1	M10 × 1	M12 × 1,5	(M14 × 1,5)	(M16 × 1,5)	(M18 × 1,5)	M20 × 2	(M22 × 1,5)	M24 × 2	
	Series 3		–	–	–	–	M10 × 1,25	M12 × 1,25	–	–	(M18 × 2)	M20 × 1,5	(M22 × 2)	–	
<i>P</i> ¹⁾			0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	
<i>d</i> _a	Min.		4	5	6	8	10	12	14	16	18	20	22	24	
	Max.		4,6	5,75	6,75	8,75	10,8	13	15,1	17,3	19,5	21,6	23,7	25,9	
<i>d</i> _k	Max.		6,5	7,5	9,5	12,5	15	17	20	23	26	28	33	34	
<i>d</i> _w	Min.		5,9	6,9	8,9	11,6	14,6	16,6	19,6	22,5	24,9	27,7	31,4	33,3	
<i>e</i> min.	Product grade	A	7,66	8,79	11,05	14,38	17,77	20,03	23,35	26,75	30,14	33,53	37,72	39,98	
		B	7,5	8,63	10,89	14,2	17,59	19,85	22,78	26,17	29,56	32,95	37,29	39,55	
<i>x</i> max. ²⁾	Series 1		1,4	1,6	2	2,5	3	–	–	–	–	–	–	–	
	Series 2		–	–	–	2	2	–	–	–	–	–	–	–	
	Series 3		–	–	–	–	2,5	–	–	–	–	–	–	–	
<i>g</i> ₂ max. ³⁾	Series 1		–	–	–	–	–	6,4	7,3	7,3	9,3	9,3	9,3	10,7	
	Series 2		–	–	–	–	–	5,6	5,6	5,6	5,6	7,3	5,6	7,3	
	Series 3		–	–	–	–	–	4,9	–	–	7,3	5,6	7,3	–	
<i>h</i>	Max. = nominal size		8	10	12	15	18	22	25	28	32	34	39	42	
	Min.	Product grade	A	7,64	9,64	11,57	14,57	17,57	21,48	24,48	27,48	32,38	33,38	38,38	41,38
			B	7,42	9,42	11,3	14,3	17,3	21,16	24,16	27,16	31	33	38	41
<i>m</i>	Max.		3,2	4	5	6,5	8	10	11	13	15	16	18	19	
	Min.		2,9	3,7	4,7	6,14	7,64	9,64	10,3	12,3	14,3	14,9	16,9	17,7	
<i>m</i> _w	Min.		2,32	2,96	3,76	4,91	6,11	7,71	8,24	9,84	11,44	11,92	13,52	14,16	
<i>r</i>	≈		3,25	3,75	4,75	6,25	7,5	8,5	10	11,5	13	14	16,5	17	
<i>s</i>	Max. = nominal size		7	8	10	13	16 ⁴⁾	18 ⁴⁾	21 ⁴⁾	24	27	30	34 ⁴⁾	36	
	Min.	Product grade	A	6,78	7,78	9,78	12,73	15,73	17,73	20,67	23,67	26,67	29,67	33,38	35,38
			B	6,64	7,64	9,64	12,57	15,57	17,57	20,16	23,16	26,16	29,16	33	35
<i>t</i>	Min.		5,26	7,21	7,71	10,65	12,65	15,65	17,65	20,58	24,58	25,58	28,58	30,5	
	Max.		5,74	7,79	8,29	11,35	13,35	16,35	18,35	21,42	25,42	26,42	29,42	31,5	
<i>w</i>	Min.		2	2	2	2	2	3	4	4	5	5	5	6	
Approx. mass, in kg, per 1000 units			⁵⁾	⁵⁾	4,66	11	20,1	28,3	⁵⁾	54,3	95	104	⁵⁾	216	

Bracketed sizes should not be used.

¹⁾ Pitch of coarse thread as specified in DIN 13-15.²⁾ For sizes up to and including M10, thread undercut or thread run-out with *x* not exceeding 2 *P*.³⁾ For sizes above M10, thread undercut with *g₂* not exceeding the values specified in DIN 76-1 (type D, short thread undercut).⁴⁾ The width across flats shall be included in the designation (cf. clause 5).⁵⁾ No values available.

4 Technical delivery conditions

Table 2: Technical delivery conditions

Material		Steel	Stainless steel	Nonferrous metal
General requirements	As specified in	ISO 8992.		
Thread	Tolerance	6H		
	As specified in	DIN 13-15.		
Mechanical properties	Property class ¹⁾ (material)	6	A1-50	CuZn ²⁾
	As specified in	DIN EN 20898-2 and DIN EN ISO 898-6.	DIN EN ISO 3506-2.	DIN EN 28839.
Limit deviations and geometrical tolerances	Product grade	A or B, at the manufacturer's discretion.		
	As specified in	DIN EN ISO 4759-1.		
Surface finish		As processed.	Plain	Plain
		DIN EN ISO 4042 applies with regard to electroplating. DIN EN ISO 10683 applies with regard to zinc flake coatings. DIN 267-2 applies with regard to surface roughness. DIN EN 493 applies with regard to surface discontinuities. DIN 267-10 applies with regard to hot-dip galvanizing.		
Acceptance inspection		DIN EN ISO 3269 applies with regard to acceptance inspection.		
1) The use of other materials or property classes or of a particular grade of material shall be subject to agreement.				
2) CU3 or CU6 grade copper-zinc alloy, at the manufacturer's discretion.				

5 Designation

Designation of a size M8 hexagon domed cap nut of property class 6:

Nut DIN 1587 – M8 – 6

The designation of sizes M10, M12, M14 and M22 nuts shall also include the width across flats.

EXAMPLE:

Designation of a size M12 hexagon domed cap nut of property class 6 and with a width across flats of 18 mm (SW18):

Nut DIN 1587 – M12 – SW18 – 6

If cap nuts for thread sizes up to M10 are to be supplied with thread undercut, the symbol Ri shall be included in the designation.

EXAMPLE:

Nut DIN 1587 – M8 – Ri – 6

Where a specific product grade is required, the letter denoting the product grade shall be included in the designation.

EXAMPLE:

Nut DIN 1587 – M8 – 6 – A

6 Marking

Nuts of grade CU3 or CU6 copper-zinc alloy are to be marked as specified in DIN EN 28839. For nuts of product grade A, the symbol (CU3 or CU6) shall be stamped on one of the hexagon flats, viz. in the middle of the flat and with the lettering parallel to the nut axis. For nuts of product grade B, the symbol shall be cast on, embossed or punched on the curved portion of the cap.

If cap nuts are to be supplied without this marking, this shall be indicated by including the symbol oK in the designation.

EXAMPLE: Nut DIN 1587 – M8 – Cu6 – oK

The DIN 4000-2 – 7.1 tabular layout of article characteristics shall apply to nuts covered in this standard.