

## Thin nuts with coarse pitch and fine pitch thread and with small widths across flats


  
80 705

Flache Muttern mit kleinen Schlüsselweiten; Regelgewinde, Feingewinde

Supersedes June 1969 edition.

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.

Dimensions in mm

## 1 Scope and field of application

This standard specifies requirements for thin nuts with small widths across flats and ISO metric screw thread as specified in the DIN 13 series, assigned to product grades B and C. If, in special cases, nuts are to comply with specifications other than those given in this standard (e.g. regarding property class or material), these shall be selected in accordance with the relevant standards.

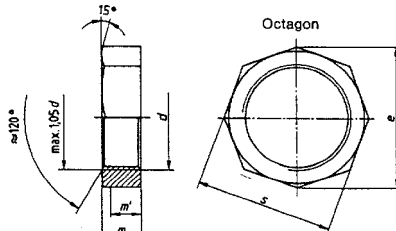
## 2 Dimensions and designation

Series 1 nuts shall be octagonal in shape and provided with a coarse pitch thread as specified in DIN 13 Part 1 or a 6 mm fine pitch thread as specified in DIN 13 Part 10.

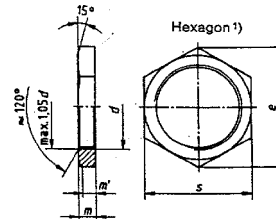
Note. These nuts shall preferably be used for accessories for handling facilities and lifting appliances for DIN 82 016 and DIN 82 101 shackles, etc.

Series 2 nuts shall be hexagonal or octagonal in shape <sup>1)</sup> and be provided with 1,5 mm or 2 mm fine pitch thread as specified in DIN 13 Parts 6 and 7.

Note. Although use of such nuts is to be avoided in shipbuilding, they may in certain cases be indispensable (e.g. as counternuts for compression couplings for use on bulkheads) (cf. DIN 2353).



Designation of an M 56 thin nut, assigned to property class 14 H:  
Nut DIN 80 705 - M 56 - 14 H



$m'$  = minimum wrenching height ( $= 0,8 m$ ).

Designation of an M 26 x 1,5 nut made of material CU 2:  
Nut DIN 80 705 - M 26 x 1,5 - Cu 2

Table 1. Series 1 nuts

Thread size (d)	$e^2)$ min.	$m$ (nominal size)	Width across flats, $s^2)$ (nominal size)	Approx. mass (7,85 kg/dm <sup>3</sup> ), per unit, in kg
M 56	75,7	22	70	0,32
M 60	81,2	22	75	0,36
M 64	86,6	24	80	0,45
M 68	92	24	85	0,51
M 72 x 6	97,4	24	90	0,56
M 76 x 6	103	26	95	0,67
M 80 x 6	108	26	100	0,74
M 85 x 6	114	26	105	0,81
M 90 x 6	119	26	110	0,84
M 95 x 6	124	28	115	0,95
M 100 x 6	130	28	120	1
M 105 x 6	141	28	130	1,3
M 110 x 6	141	28	130	1,1
M 115 x 6	146	30	135	1,2
M 120 x 6	157	30	145	1,5
M 125 x 6	162	30	150	1,7
M 130 x 6	168	30	155	1,7
M 140 x 6	179	35	165	2,2

<sup>1)</sup> The figure shows a hexagon nut, designed for thread sizes M 12 x 1,5 to M 45 x 2, octagon nuts only being suitable for thread sizes of M 52 x 2.

<sup>2)</sup> Dimensions as specified in DIN 475 Part 1.

Table 2. Series 2 nuts

Thread size (d)	$e^2)$ min.	$m$ (nominal size)	Width across flats, $s^2)$ (nominal size)		Approx. mass (7,85 kg/dm <sup>3</sup> ), per 100 units, in kg
			Hexagon	Octagon	
M 12 x 1,5	18,72	6	17	-	0,70
M 14 x 1,5	20,88	6	19	-	0,82
M 16 x 1,5	23,91	6	22	-	1,1
M 18 x 1,5	26,17	6	24	-	1,2
M 20 x 1,5	29,56	6	27	-	1,6
M 22 x 1,5	32,95	7	30	-	2,3
M 24 x 1,5	35,03	7	32	-	2,5
M 26 x 1,5	39,55	8	36	-	4
M 30 x 2	45,20	8	41	-	5
M 36 x 2	50,85	9	46	-	6,2
M 42 x 2	55,37	9	50	-	5,9
M 45 x 2	60,79	9	55	-	7,7
M 52 x 2	70,3	10	-	65	11,2

Continued on pages 2 and 3

**3 Technical delivery conditions**

Table 3.

Material <sup>3)</sup>		Steel	Non-ferrous metals
General requirements		As specified in DIN 267 Part 1.	
Thread	Tolerance	6 H for product grade B (series 2) and 7 H for product grade C (series 1)	
	As specified in	DIN 13 Part 15.	
Mechanical properties	Property class (material)	14 H	CuZn <sup>3)</sup>
	As specified in	DIN 267 Part 24.	DIN 267 Part 18.
Limit deviations and geometrical tolerances	Product grade	B for series 2, and C for series 1.	
	As specified in	ISO 4759 Part 1 or DIN 475 Part 1.	
Surface finish		As processed.	Bright
		DIN 267 Part 2 shall apply with regard to surface roughness. DIN 267 Part 20 shall apply with regard to permissible surface discontinuities. DIN 267 Part 9 shall apply with regard to electroplating. DIN 267 Part 10 shall apply with regard to hot-dip galvanizing.	
Acceptance testing		As specified in DIN 267 Part 5.	

<sup>3)</sup> CuZn = CU2 or CU3 or copper-zinc casting alloy, at the manufacturer's discretion, the material symbol being indicated in the designation.

**Standards referred to**

DIN 13 Part 1	ISO metric screw threads; coarse pitch threads with diameters from 1 to 68 mm; nominal sizes
DIN 13 Part 6	ISO metric screw threads; 1,5 mm fine pitch threads with diameters from 12 mm to 300 mm; nominal sizes
DIN 13 Part 7	ISO metric screw threads; 2 mm fine pitch threads with diameters from 17 mm to 300 mm; nominal sizes
DIN 13 Part 10	ISO metric screw threads; 6 mm fine pitch threads with diameters from 70 mm to 500 mm; nominal sizes
DIN 13 Part 15	ISO metric screw threads; fundamental deviations and tolerances for screw threads of 1 mm diameter and larger
DIN 267 Part 1	Fasteners; technical delivery conditions; general requirements
DIN 267 Part 2	Fasteners; technical delivery conditions; product grades and tolerances
DIN 267 Part 5	Fasteners; technical delivery conditions; acceptance inspection (modified version of ISO 3269:1984)
DIN 267 Part 9	Fasteners; technical delivery conditions; electroplated components
DIN 267 Part 10	Fasteners; technical delivery conditions; hot-dip galvanized components
DIN 267 Part 18	Fasteners; technical delivery conditions; non-ferrous metal components
DIN 267 Part 20	Fasteners; technical delivery conditions; surface discontinuities on nuts
DIN 267 Part 24	Fasteners; technical delivery conditions; property classes for nuts (hardness classes)
DIN 475 Part 1	Widths across flats for screws, bolts, valves and fittings
DIN 1709	Copper-zinc casting alloys; castings
DIN 2353	Compression couplings with olive; assembly
DIN 17 680	Copper-zinc alloys; composition
DIN 82 016	Shackles for use on cargo handling gear
DIN 82 101	Shackles
ISO 4759-1:1978	Tolerances for fasteners; bolts, screws and nuts with thread diameters from 1,6 to 150 mm and product grades A, B and C

**Previous editions**

DIN HNA M 5: 12.21, 03.38; DIN HNA M 15: 03.22; DIN 80 715: 08.44; DIN 80 705: 08.44, 08.53, 09.55, 08.69.

**Amendments**

The following amendments have been made to the June 1989 edition.

- a) The subtitle has been amended to make reference to coarse and fine pitch threads, in line with the DIN 13 series.
- b) The property class requirement has been harmonized with the specifications of DIN 267 Part 24.
- c) Product grades B and C have been specified instead of finishes mg and g, respectively (cf. DIN 267 Part 2).
- d) The standard has been editorially revised and been brought up to standards practice.

**International Patent Classification**

B 63

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F 16 B 37/00

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