UDC 629.11.012.332.2-218.8 : 629.113/.118 November 1982

Disc wheels for motor vehicles and trailers
Fasteners for stud centring

DIN 74 361 Part 2

Scheibenräder für Kraftwagen und Anhängefahrzeuge;
Befestigungselemente für Bolzenzentrierung

Supersedes October 1976 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 Field of application

This standard specifies requirements for fasteners for stud-centred disc wheels on motor vehicles and trailers.

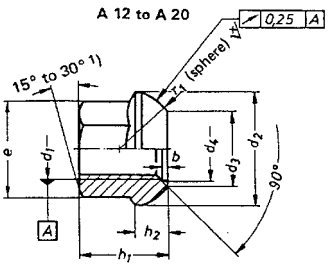
Any necessary draft on the hexagon shall be within the tolerance on the width across flats.

$\sqrt[\forall]{} = \sqrt{R_z\,16}$; other surfaces: $\sqrt{R_z\,25}$.

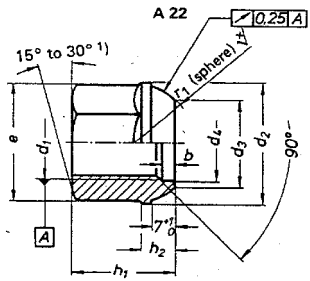
2 Nuts

Spherical collar nuts (A)

A 12 to A 20



A 22

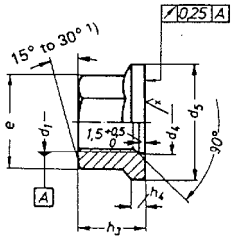


Screw thread countersunk down to thread diameter.

Designation of an M 12 X 1,5 (12) spherical collar nut (A) assigned to property class 8:

Wheel nut DIN 74 361 – A 12 – 8

Hexagon nut with flange (B)

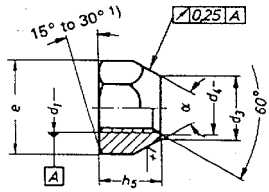


Screw thread countersunk down to thread diameter.

Designation of an M 20 X 1,5 (20) hexagon nut with flange (B), assigned to property class 8:

Nut DIN 74 361 – B 20 – 8

Conical nut (F)



Designation of an M 12 X 1,5 (12) conical nut (F), $\alpha = 60°$ (60), assigned to property class 8:

Nut DIN 74 361 – F 21 X 60 – 8

1) For stamped nuts, radius as produced by cold forming.

Continued on pages 2 to 5

Table 1. **Nuts** (types A, B, F)

Thread size (d_1)	Symbol	b	d_2	d_3	d_4	d_5	h_1	h_2 [1]	h_3	h_4 [1]	h_5	r_1	Width across flats (SW)	e	α	Mass (7,85 kg/dm³) per 1000 units, in kg, ≈		
		$^{+0,5}_{0}$	$^{0}_{-0,5}$	$^{0}_{-0,5}$	H 13	$^{0}_{-0,5}$	$^{+1}_{0}$	±0,5	$^{+1}_{0}$	±0,5	±0,25	±0,1	h 13	min	±1°	A	B	F
M 12 × 1,5	12	1	23	14,5	12,5	24	18	7,5	13	2,5	–	12	17	18,72	–	26	22	–
M 12 × 1,5	12	–	–	15	13	–	–	–	–	–	14	–	19	20,88	60° 90°	– –	– –	19,8 20,1
M 14 × 1,5	14	1,5	26	17	14,5	27	20	7,5	15	3	–	14	19	20,88	–	33	29	–
M 18 × 1,5	18	1,5	28	21	18,5	29	25	7,5	18	4	–	16	24	26,17	–	53	44	–
M 20 × 1,5	20	3	33	24,5	20,5	34	27	9	20	5	–	18	27	29,56	–	76	63	–
M 22 × 1,5	22	4	36	26,5	22,5	36	30	10,5	22	6	–	18	30	32,95	–	100	79	–

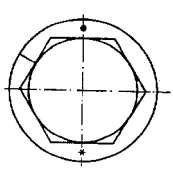
1) The draft is not included in the values given for h_2 and h_4.

Technical delivery conditions

Property class or material: 8 or 10, as specified in DIN 267 Part 4.
Type: mg, as specified in DIN 267 Part 2.
Surface: Znph r 5 f, as specified in DIN 50 942.
Marking:

Conical nuts F: property class and manufacturer's mark, as specified in ISO 898 Part 2.

Spherical collar nuts and hexagon nuts with flange: manufacturer's mark, and symbols denoting property class as in ISO 898 Part 2, the marking, however, being applied as illustrated (clock face system).



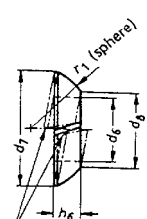
The illustration shows a spherical collar nut or a hexagon nut with flange, assigned to property class 10.

* Manufacturer's mark.

(As a departure from ISO 898 Part 2, the marking reference point shall not be located at a hexagon corner, but between two corners.)

3 Spring lock washers (C)

Dimensions apply for tightened condition of bolted connection.



Corners rounded.

Designation of a spring lock washer (C) with internal diameter, d_6 = 20,5 mm:

Spring lock washer DIN 74 361 – C 20,5

Table 2. **Spring lock washers**

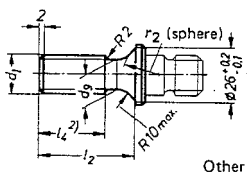
d_6 $^{+0,5}_{0}$	d_7 ≈	d_8 ≈	h_6 $^{+1}_{0}$	r_1 ±0,5	Mass (7,85 kg/dm³) per 1000 units, in kg, ≈
12,5	23	14,5	5	12	7,5
14,5	26	17	6	14	10,5
18,5	29	20	7	16	14
20,5	34	24	8	18	23
22,5	34	24	8	18	21

Material: spring steel as specified in DIN 17 221 or equivalent grade. Other materials shall be the subject of agreement.
Finish: hardened and tempered to HRC 44 to 51 (450 – 570 HV).

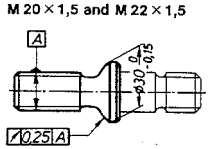
4 Studs (connecting dimensions)

For double-wheel attachment (D)

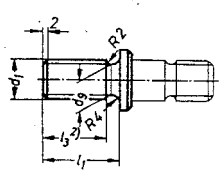
M 18 × 1,5



M 20 × 1,5 and M 22 × 1,5



For single-wheel attachment (E)



Other dimensions as for size M 18 X 1,5.

Designation of an M 18 X 1,5 (18) stud for double-wheel attachment (D) with connecting dimensions as specified in this standard, assigned to property class 8.8:

Stud DIN 74 361 – D 18 – 8.8

Table 3. **Studs**

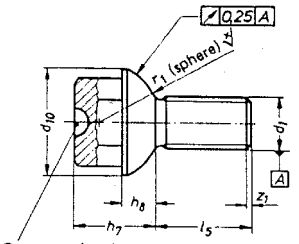
Thread size (d_1)	Symbol	d_9 $^{0}_{-0,3}$	l_1 ±0,5	l_2 ±0,5	l_3 min.	l_4 min.	r_2 $^{0}_{-0,1}$
M 12 × 1,5	12	Connecting dimensions not specified.					
M 14 × 1,5	14						
M 18 × 1,5	18	15,5	34	42	28	29	15,5
M 20 × 1,5	20	17,5	38	47	29	34	17,5
M 22 × 1,5	22	19,5	43	55	32	38	17,5

Technical delivery conditions

Property class or material: 8.8, 10.9 as specified in ISO 898 Part 1 and *VDA-Werkstoffblatt* (VDA Materials specification) 231-01.
Design: mg, as specified in DIN 267 Part 2.
Surface: Znph r 5 f, as specified in DIN 50 942.
Marking: as specified in ISO 898 Part 1.

2) Studs without thread undercut also permitted, with the thread length then being at least equal to l_3 or l_4.

Spherical collar stud (G)



z_1 as specified in DIN 78.

Designation of an M 14 X 1,5 (14) spherical collar stud (G) of length l_5 = 24 mm and assigned to property class 8.8:

Stud DIN 74 361 – G 14 X 24 – 8.8

Table 4. **Spherical collar studs**

Thread size (d_1)	Symbol	d_{10} $^{+1,5}_{-0,5}$	h_7 $^{+1}_{-0,5}$	h_8 ±0,5	l_5 ±0,5	r_1 ±0,1	Width across flats (SW) h13	e min.	Mass (7,85 kg/dm³) per 1000 units, in kg, ≈
M 12 × 1,5	12	22,5	18	7,5	**21**	12	17	18,72	56
M 14 × 1,5	14	26	20	8,0	**24**	14	19	20,88	77
M 14 × 1,5	14	24	18	6,0	**18**	14	19	20,88	63
M 18 × 1,5	18	29	25	8,0	**25**	16	24	26,17	143

Technical delivery conditions

Property class or material: 8.8, 10.9 as specified in ISO 898 Part 1 and *VDA-Werkstoffblatt* 231-01.
Design: mg, as specified in DIN 267 Part 2.
Surface: Znph r 5 f, as specified in DIN 50 942.
Marking: as specified in ISO 898 Part 1.

Standards referred to and other documents

DIN 78	Thread ends and lengths of projection of bolt ends for ISO metric threads as specified in DIN 13
DIN 267 Part 2	Fasteners; technical delivery conditions; designs and dimensional accuracy; examples of tolerance indications
DIN 267 Part 4	Fasteners; technical delivery conditions; property classes for nuts (previous classes)
DIN 17 221	Hot rolled steel for quenched and tempered springs; quality specifications
DIN 50 942	Phosphating of metals; principles, methods of test
ISO 898 Part 1	Mechanical properties of fasteners; bolts, screws and studs
ISO 898 Part 2	Mechanical properties of fasteners; nuts with specified proof load values
ISO 1302	Technical drawings; method of indicating surface texture on drawings
VDA-Werkstoffblatt 231-01 [3]	*Mechanische Eigenschaften von Verbindungselementen; Schrauben* (Mechanical properties of fasteners; studs and bolts)

Previous editions

DIN KrW 225 and KrW 226: 12.31; DIN Kr 4361 Part 2: 04.39; DIN 74 361 Part 2: 05.52, 02.55, 06.55, 10.68, 10.76.

Amendments

The following amendments have been made to the October 1976 edition.

a) The standard designation has been harmonized with DIN 820 Part 27.
b) The specification of surface finish now complies with ISO 1302.
c) The reference to DIN 267 Parts 3 and 7 has been replaced by a reference to ISO 898 Part 1.
d) The reference to DIN 267 Part 8 has been replaced by a reference to ISO 898 Part 2.
e) A reference to *VDA-Werkstoffblatt* 231-01 has been included.

International Patent Classification

B 60 B 3/00

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[3] Obtainable from *DKF Dokumentation Kraftfahrwesen e.V.*, Postfach 15 08, Etzelstraße 1, D-7120 Bietigheim-Bissingen