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Disc wheels for motor vehicles and trailers
 Dimensions and fasteners
 for attachment with centring on wheel bore

DIN
74 361
 Part 3

Scheibenräder für Kraftwagen und Anhängerfahrzeuge; Anschlußmaße und Befestigungselemente für Mittenzentrierung

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.

See Explanatory notes for connection with ISO 4107.

Dimensions in mm

1 Field of application

This standard specifies requirements for the attachment of disc wheels with 15° tapered rims as covered in DIN 78 022, on commercial vehicles and trailers.

Design-related details left unspecified, such as shape of wheel disc and connection between rim and wheel disc, are to be selected as appropriate.

2 For other standards to be observed, see page 4.

3 Dimensions, designation

Single-wheel attachment

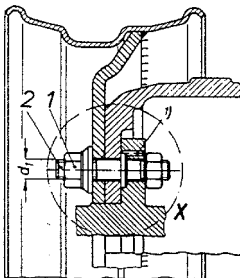
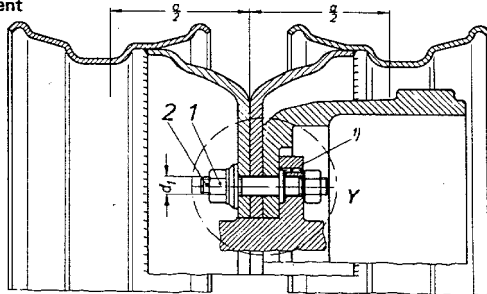


Figure 1.

Twin-wheel attachment



a = centre line
 distance of
 rims/tyres

Figure 2.

1 Wheel nut with thrust plate, as specified in table 2.

2 Stud thread size (d_1) as given in table 2; length to be calculated from relevant equation given in this table.

1) The method of locking the stud against turning is illustrated by way of example only.

Continued on pages 2 to 4

Detail X
(shown without item Nos. 1 and 2)

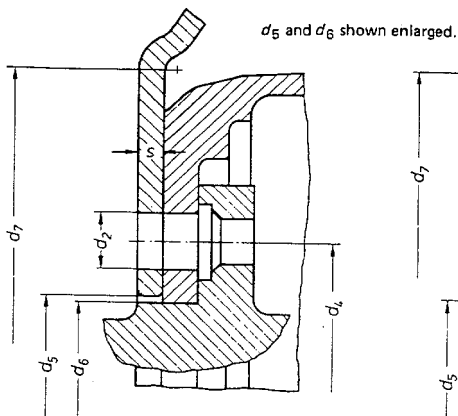


Figure 3.

Detail Y
(shown without item Nos. 1 and 2)

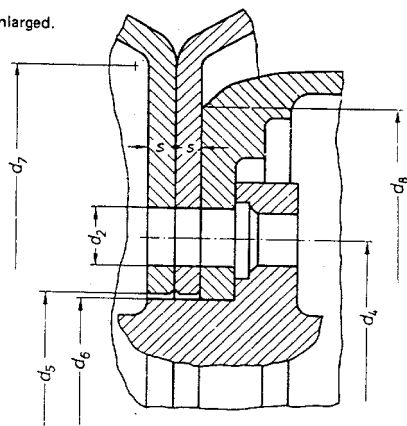


Figure 4.

The edges of stud holes and centre hole shall be deburred.

The maximum permissible unbalance shall be subject to agreement.

Wheels conforming to this standard shall be marked by stamping, in compliance with DIN 7829.

Table 1.

Number of stud holes X pitch circle diameter (main connecting dimensions)	Pitch circle diameter, d_4 ²⁾	Wheel bore diameter, d_5 ³⁾	Wheel centring hub diameter, d_6 ⁴⁾	Minimum disc flat diameter, d_7	Diameter of wheel system, d_8	Stud hole diameter, d_2	Thread size of relevant stud (d_1) (recommended values)	Maximum wheel disc thickness, s
	Limit dev.	Limit dev.	Limit dev.	Limit dev.	Limit dev.	Limit dev.		
6 X 205	205 $\pm 0,3$	161 $+0,2$ 0	160,8 -0 $-0,5$	255	250 -0 -5	21 $+1$ 0	M 18 X 1,5	12
6 X 245	245 $\pm 0,3$	202 $+0,2$ 0	201,8 -0 $-0,5$	295	290 -0 -5	21 $+1$ 0	M 18 X 1,5	12
8 X 275	275 $\pm 0,3$	221 $+0,2$ 0	220,8 -0 $-0,5$	325	320 -0 -5	24 $+1$ 0	M 20 X 1,5	16
10 X 335	335 $\pm 0,3$	281 $+0,2$ 0	280,8 -0 $-0,5$	390	385 -0 -5	26 $+1$ 0	M 22 X 1,5	16

2) In the case of profiled discs, measured on wheel in assembly.
 3) Measured on discs in the unfinished condition, without any coating, using a plug gauge. The wheel bore shall have no recesses.
 4) For interrupted centring (i.e. where recesses are provided in the hub), the limit deviations shall be $-0,2$.

Maximum permissible deviations of form of the wheel disc according to the customer's specifications.

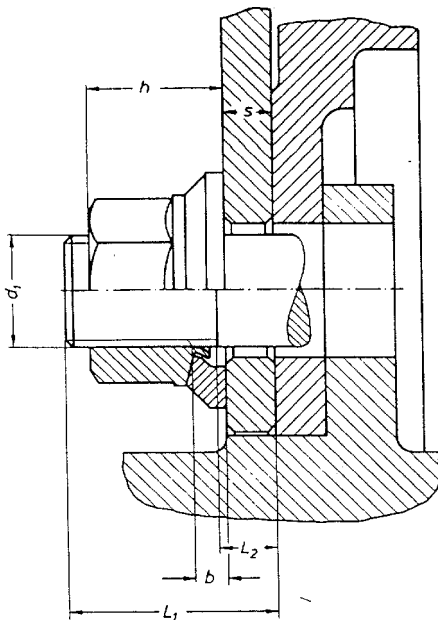


Figure 5.

Designation of an M 20 X 1,5 (20) wheel nut with thrust plate (H), assigned to property class 10:

Wheel nut DIN 74 361 – H 20 – 10

Wheel nut with thrust plate (H)
Check whether the above is protected by proprietary rights!

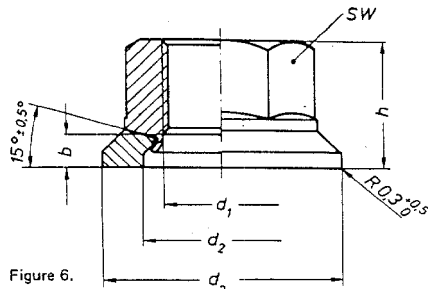


Figure 6.

Single-wheel attachment: $L_1 = s + h$ (minimum);
 $L_2 = s + \frac{b}{2}$ (maximum).

Twin-wheel attachment: $L_1 = 2s + h$ (minimum);
 $L_2 = 2s + \frac{b}{2}$ (maximum).

Table 2.

Thread size (d_1)	Wheel nut with thrust plate				
	SW	d_2 $+0,5$ 0	d_3 0 $-0,5$	h max.	b min.
M 18 X 1,5	27	25,5	40	25	4,5
M 20 X 1,5	30	28	45	27	4,5
M 22 X 1,5	32	30	46	27	4,5

4 Technical delivery conditions as specified in DIN 267 Parts 2, 4, 5, and 8

4.1 Property class or material

Wheel nuts with thrust plate: wheel nut body: 10 as specified in DIN 267 Part 4;
thrust plate: 34 CrMo 4, hardened to 350 to 450 HB.

Wheel studs: 10.9 as specified in ISO 898 Part 1.

4.2 Design

mg as specified in DIN 267 Part 2.

4.3 Finish

Znph r 5 f as specified in DIN 50942.

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Other standards to be observed

- 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 267 Part 5 Fasteners; technical delivery conditions; acceptance inspection (modified version of ISO 3269, 1984 edition)
- DIN 7829 Rims and wheels; marking
- DIN 50942 Phosphating of metals; principles and methods of test
- DIN 78 022 Part 1 15° tapered rims for commercial vehicles and trailers
- ISO 898 Part 1 Mechanical properties of fasteners; bolts, screws and studs

Other relevant standards

- DIN 7805 Part 4 Tyres for lorries, coaches, truck tractors and their trailers; tubeless tyres on 15° tapered rims
- DIN 7805 Part 5 Tyres for lorries, coaches, truck tractors and their trailers; hub distances for twin tyres on 15° tapered rims
- DIN 70 020 Part 5 Automotive engineering; tyres and wheels; concepts and measuring conditions
- DIN 74 361 Part 1 Disc wheels for motor vehicles and trailers; connection dimensions for bolt centring
- DIN 74 361 Part 2 Disc wheels for motor vehicles and trailers; fasteners for stud centring
- DIN 74 362 Part 10 Brake drums for disc wheels of commercial vehicles and their trailers with dish and 10-bolt fastening; maximum external contour
- DIN 78 027 Valves for tubeless vehicle tyres; valves for 15° tapered straight and angled rims

Explanatory notes

The wheel connecting dimensions given in this standard largely correspond to the specifications of ISO 4107, Road vehicles; wheels for commercial vehicles; dimensional characteristics of attachment on hub.

The ISO Standard, in an appendix, specifies connecting dimensions for stud hole centred wheels in addition to those for attachment with centring on wheel bore, but does not deal with fasteners.