UDC 621.884.6 May 1993

Tubular rivets
made from tube

DIN 7340

Rohrniete, aus Rohr gefertigt

Supersedes August 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.

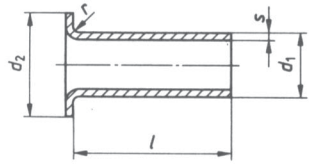
Dimensions in mm

1 Scope and field of application

This standard specifies dimensions of, and technical delivery conditions for, steel and nonferrous metal tubular rivets made from seamless tube.

2 Dimensions

Type A, with pan head



Type B, with rolled back round head

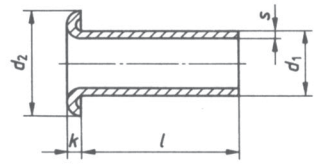


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Table 1: Rivet dimensions and mass

d_1	Nominal size	1	1,2	1,5		2		2,5			3			4		
	Limit deviations	± 0,03						± 0,05						± 0,07		
s	± 10 %		0,2		0,25	0,2	0,3	0,25	0,3	0,4	0,25	0,3	0,5	0,3	0,4	0,5
d_2	Nominal size	1,6	2	2,5		3,2		4			4,5			6		
	Limit deviations	± 0,15				± 0,2								± 0,25		
k	≈	0,25	0,3	0,35	0,4	0,4	0,45	0,4	0,5	0,6	0,5	0,5	0,6	0,65	0,7	0,8
r	max.	0,2						0,25			0,3			0,4		

Nominal size	l Limit deviations	Approximate mass (7,85 kg/dm³), per 1000 units, in kg[1]														
2	± 0,12	0,011	0,015	0,021	0,025	0,031	0,043									
2,5		0,013	0,017	0,024	0,029	0,036	0,049									
3		0,015	0,019	0,028	0,032	0,041	0,055	0,068	0,079	0,096	0,085	0,096	0,140			
3,5	± 0,15	0,017	0,021	0,030	0,036	0,045	0,062	0,076	0,088	0,108	0,093	0,106	0,156			
4		0,018	0,024	0,033	0,040	0,049	0,067	0,082	0,095	0,117	0,102	0,116	0,171	0,180	0,233	0,274
5		0,022	0,029	0,040	0,047	0,058	0,080	0,096	0,112	0,140	0,119	0,135	0,201	0,208	0,269	0,318
6		0,026	0,034	0,046	0,055	0,067	0,093	0,110	0,128	0,160	0,137	0,155	0,233	0,235	0,304	0,360
7	± 0,18	0,030	0,039	0,053	0,063	0,076	0,105	0,124	0,144	0,181	0,153	0,175	0,263	0,261	0,340	0,404
8		0,034	0,043	0,059	0,072	0,085	0,118	0,138	0,161	0,201	0,171	0,194	0,294	0,289	0,379	0,447
10		0,042	0,054	0,072	0,086	0,103	0,143	0,165	0,193	0,243	0,205	0,234	0,356	0,343	0,450	0,533
12	± 0,20	0,050	0,063	0,085	0,101	0,120	0,168	0,193	0,225	0,285	0,239	0,274	0,418	0,397	0,521	0,619
15		0,062	0,078	0,103	0,124	0,147	0,206	0,235	0,274	0,347	0,291	0,332	0,509	0,479	0,627	0,749
18		0,074	0,092	0,121	0,147	0,174	0,244	0,276	0,323	0,408	0,343	0,391	0,602	0,559	0,734	0,879
20		0,082	0,103	0,133	0,163	0,191	0,269	0,304	0,356	0,450	0,377	0,431	0,663	0,614	0,805	0,961
22	± 0,25					0,209	0,294	0,332	0,388	0,492	0,411	0,470	0,725	0,668	0,876	1,05
25						0,236	0,332	0,373	0,437	0,553	0,463	0,529	0,817	0,749	0,989	1,18
28						0,262	0,370	0,415	0,486	0,615	0,515	0,588	0,909	0,830	1,09	1,31
30						0,280	0,395	0,443	0,518	0,657	0,549	0,627	0,970	0,884	1,16	1,40
32	± 0,30							0,470	0,551	0,699	0,583	0,667	1,03	0,942	1,24	1,48
35								0,512	0,600	0,760	0,635	0,726	1,13	1,02	1,34	1,62
38								0,553	0,649	0,822	0,687	0,784	1,22	1,10	1,45	1,75
40								0,581	0,681	0,864	0,721	0,824	1,28	1,16	1,52	1,83
45											0,807	0,922	1,43	1,29	1,70	2,04
50											0,893	1,03	1,59	1,42	1,88	2,26
55	± 0,35													1,56	2,06	2,49
60														1,70	2,24	2,69

For [1], see page 3.

(continued)

Table 1 (concluded)

d_1	Nominal size	5			6				8				10		
	Limit deviations	± 0,07			± 0,01										
s	± 10 %	0,3	0,5	0,75	0,4	0,5	0,75	1	0,4	0,5	0,75	1	0,5	0,75	1
d_2	Nominal size	7,5			9				12				15		
	Limit deviations	± 0,25							± 0,3						
k	≈	0,75	0,9	1	0,95	1	1,1	1,3	1,2	1,3	1,4	1,5	1,5	1,6	1,7
r	max.	0,5			0,6				0,8				1		
Nominal size	l Limit deviations	Approximate mass (7,85 kg/dm³), per 1000 units, in kg[1]													
4	± 0,15	0,261	0,395	0,531											
5		0,297	0,451	0,611											
6		0,332	0,506	0,689	0,559	0,673	0,936	1,13							
7	± 0,18	0,367	0,562	0,768	0,614	0,741	1,03	1,25	0,945	1,16	1,63	2,02			
8		0,402	0,617	0,846	0,670	0,809	1,13	1,38	1,02	1,25	1,76	2,19	1,76	2,51	3,17
10		0,472	0,728	1,01	0,781	0,942	1,32	1,62	1,17	1,43	2,03	2,54	2,00	2,86	3,61
12	± 0,20	0,542	0,839	1,16	0,892	1,08	1,52	1,87	1,32	1,62	2,30	2,88	2,24	3,20	4,06
15		0,648	1,01	1,40	1,06	1,28	1,80	2,24	1,55	1,89	2,70	3,40	2,59	3,71	4,72
18		0,753	1,17	1,64	1,23	1,49	2,10	2,61	1,77	2,17	3,10	3,92	2,94	4,23	5,39
20	± 0,25	0,823	1,28	1,79	1,34	1,63	2,29	2,86	1,92	2,36	3,37	4,27	3,17	4,57	5,83
22		0,894	1,39	1,95	1,45	1,76	2,49	3,10	2,07	2,54	3,64	4,61	3,40	4,92	6,27
25		0,998	1,56	2,19	1,62	1,96	2,78	3,47	2,30	2,82	4,05	5,13	3,75	5,43	6,94
28		1,11	1,73	2,42	1,78	2,16	3,07	3,84	2,52	3,10	4,44	5,65	4,10	5,94	7,60
30		1,17	1,84	2,58	1,89	2,30	3,26	4,08	2,67	3,28	4,71	5,99	4,34	6,28	8,05
32	± 0,30	1,24	1,95	2,74	2,01	2,44	3,47	4,33	2,82	3,47	4,99	6,34	4,57	6,63	8,49
35		1,35	2,12	2,98	2,17	2,64	3,75	4,70	3,05	3,74	5,39	6,86	4,92	7,14	9,15
38		1,46	2,28	3,22	2,34	2,85	4,05	5,07	3,27	4,02	5,79	7,37	5,28	7,66	9,79
40		1,52	2,39	3,37	2,45	2,98	4,24	5,32	3,42	4,20	6,06	7,72	5,51	8,00	10,3
45	± 0,30	1,70	2,67	3,76	2,73	3,32	4,73	5,94	3,80	4,67	6,74	8,58	6,10	8,86	11,4
50		1,88	2,95	4,16	3,00	3,66	5,21	6,55	4,17	5,13	7,42	9,42	6,68	9,70	12,5
55	± 0,35	2,05	3,22	4,56	3,28	4,00	5,70	7,17	4,55	5,59	8,10	10,3	7,26	10,5	13,6
60		2,23	3,50	4,94	3,56	4,33	6,19	7,79	4,92	6,05	8,78	11,2	7,85	11,5	14,7

The values of mass specified are for guidance only.

Rivets are normally manufactured in the sizes for which values of mass have been specified.

[1]) Conversion factors for values of mass:

Material	St	Cu	CuZn	Al
Conversion factor	1	1,134	1,070	0,344

3 Technical delivery conditions

Table 2: Technical delivery conditions

	Steel	Nonferrous metal
Material[1]	St = St 35 or St 37.0 N, at the manufacturer's discretion.	CuZn = CuZn37 F37 Cu = SF-Cu F25 Al = Al99,5
As specified in	DIN 2391 Part 2 DIN 1629	DIN 17 671 Part 1 DIN 1746 Part 1
Dimensional and geometrical tolerances[2]	As specified in DIN 101.	
Surface finish	Standard finish: bright. Where a protective coating is required (e.g. an electroplated coating complying with ISO 4042), this shall be agreed when ordering. The tolerances and limit deviations specified in table 1 shall also apply for the coated rivet.	
Testing of mechanical properties	As specified in DIN 101.	
Acceptance inspection	As specified in DIN 101.	

1) Other materials shall be the subject of agreement.
2) DIN 101 shall apply with regard to the dimensional and geometrical tolerances unless otherwise specified in clause 2 of this standard.

4 Designation

Designation of a CuZn37 F37 (CuZn) type B tubular rivet with a nominal diameter, d_1, of 4 mm, a wall thickness, s, of 0,5 mm and a length, l, of 10 mm:

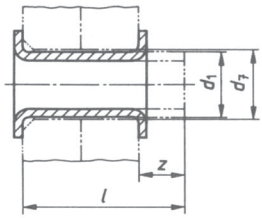
Tubular rivet DIN 7340 – B 4 x 0,5 x 10 CuZn

The DIN 4000-9-3 tabular layout of article characteristics shall apply to rivets as covered in this standard.

5 Examples of application

Table 3 specifies guideline values for the length of projection, z, required for riveting, as a function of shank diameter, d_1.

Type A



Type B

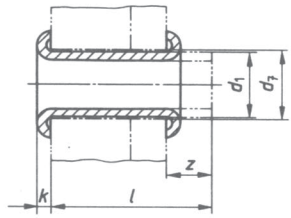


Table 3: Hole diameters and guideline values for length of projection

Shank diameter, d_1	1	1,2	1,5		2		2,5			3			4		
Clearance hole, d_7 (H12)	1,05	1,25	1,55		2,1		2,6			3,1			4,2		
Countersink diameter, s	0,2	0,2	0,2	0,25	0,2	0,3	0,25	0,3	0,4	0,25	0,3	0,5	0,3	0,4	0,5
Approximate length of projection, z	0,8	1	1,1	1,2	1,2	1,5	1,4	1,7	2	1,8	2	2,2	2	2,2	2,5

Shank diameter, d_1	5			6				8				10		
Clearance hole, d_7 (H12)	5,2			6,3				8,4				10,5		
Countersink diameter, s	0,3	0,5	0,75	0,4	0,5	0,75	1	0,4	0,5	0,75	1	0,5	0,75	1
Approximate length of projection, z	2,5	3	3,5	2,5	3	3,5	4	3	3,5	3,7	4	3,5	3,7	4

Since z is specified for guidance only, trial riveting is recommended, especially if automated procedures are used.

Standards referred to

DIN 101 Rivets; technical delivery conditions
DIN 1629 Seamless, circular, unalloyed steel tubes subject to special requirements; technical delivery conditions
DIN 1746 Part 1 Wrought aluminium and aluminium alloy tubes; properties
DIN 2391 Part 2 Welded precision steel tubes; dimensions
DIN 4000 Part 9 Tabular layout of article characteristics for bolts, pins, rivets, split pins and keys
DIN 17 671 Part 1 Wrought copper and copper alloy tubes; properties
ISO 4042:1989 Threaded components; electroplated coatings

Previous editions

DIN 7340: 04.41, 06.53, 01.61. 08.69.

Amendments

The following amendments have been made to the August 1969 edition.

a) Technical delivery conditions have been specified.
b) The specifications for materials have been amended.
c) The specifications for clearance holes in clause 5 have been amended and harmonized with those given DIN 101.
d) The standard has been editorially revised.

International Patent Classification

F 16 B 019/04
F 16 B 019/08