

UDC 621.882.219.4

December 1972

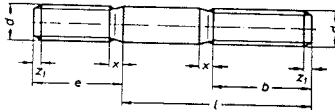
Studs  
Threaded End  $\approx 2 d$

**DIN**  
**835**

Stiftschrauben, Elnachraubende  $\approx 2 d$

The studs according to this Standard are used mainly for screwing into aluminium alloys. At present, in accordance with DIN 267 Part 2, the Sk 6 tolerance according to DIN 13 and DIN 14 Supplementary Sheet 14 applies to the thread at the threaded end unless the designation contains Po (- without interference thread) or Sn 4.

Dimensions in mm



x to DIN 76  
z<sub>1</sub> to DIN 78

Designation of a stud with thread  $d = M 12$ , length  $l = 80$  mm and strength category 8.8:  
Stud M 12 x 80 DIN 835 - 8.8

Designation of the same stud, but without interference thread (Po):  
Stud M 12 Po x 80 DIN 835 - 8.8

d	M 4	M 5	M 6	(M 7)	M 8	M 10	M 12	(M 14)	M 16	(M 18)	M 20	(M 22)	M 24
					M 8 x 1	M 10 x 1.25	M 12 x 1.25	(M 14 x 1.5)	M 16 x 1.5	(M 18 x 1.5)	M 20 x 1.5	(M 22 x 1.5)	M 24 x 2
1)	14	16	18	20	22	26	30	34	38	42	46	50	54
2)	20	22	24	26	28	32	36	40	44	48	52	56	60
3)	--	--	--	--	--	45	49	53	57	61	65	69	73
e	8	10	12	14	16	20	24	28	32	36	40	44	48
l	Weight (7.85 kg/dm <sup>3</sup> ) kg/1000 pieces $\approx$												
12													
(14)													
16													
(18)													
20	2,20												
(22)	2,40	4,00											
25	2,70	4,46	6,50										
(28)	3,00	4,92	7,17	10,5									
30	3,20	5,23	7,60	11,1	14,7								
35	3,70	5,00	8,70	12,6	16,7	27,7							
40	4,20	6,77	9,80	14,1	18,7	30,8							
45		7,44	10,9	15,6	20,7	33,9	47,0						
50		8,21	12,0	17,1	22,7	37,0	51,4	77,0					
55			13,1	18,6	24,7	40,1	60,2	83,0	110				
60			14,2	20,1	26,7	43,2	64,6	89,1	118	163			
65				21,6	28,7	46,3	69,0	101	132	173	224	276	
70				23,1	30,7	49,4	73,4	107	140	183	236	291	362
75				32,7	52,5	77,8	113	148	193	248	306	380	380
80					34,7	55,6	82,2	119	156	203	260	321	398
(85)						58,7	86,6	125	164	213	272	336	416
90						61,8	91,0	131	172	223	284	351	434
(95)						64,9							
100						68,0	95,4	137	180	233	296	366	452
110							109,8	156	204	263	332	410	470
120								118	168	220	283	356	440
130									180	236	303	380	470
140									192	252	323	404	500
150										268	343	428	530
160										284	363	452	560
170											383	476	590
180											403	500	620
190												524	650
200												550	680

- 1) For lengths  $l$  up to 125 mm
- 2) For lengths  $l$  above 125 to 200 mm
- 3) For lengths  $l$  above 200 mm

Continued on page 2  
Explanations on page 2

Page 2 DIN 835

Lengths above 200 mm are to be stepped in rises of 20 mm.

Bracketed sizes and intermediate lengths should be avoided wherever possible.

Normally, these studs with regular thread are made in the lengths which lie between the ——— stepped lines.

Studs with lengths above the upper ——— stepped line cannot be made with the stated thread lengths  $b$ . For these studs the thread length is given by  $b = L - (x + 3)$ .

For studs with lengths above the ——— stepped line,  $b + x < 1.2 e$ . Therefore, to distinguish the two threaded ends of these studs, the nut end must be provided with an oval point unless the identification symbol for the strength category is marked on the end face at the nut end.

Technical conditions of delivery according to DIN 267

Strength category or material:

5.6, 8.8, 10.9 according to DIN 267 Part 3

Other strength categories or materials according to agreement

Type: m according to DIN 267 Part 2

If electroplated surface protection is required, the designation must be augmented according to DIN 267 Part 9.

If one of the types listed in DIN 962 with additional order particulars is required, the designation must be augmented according to DIN 962.

If the studs are required with different threads at the threaded end and nut end, this should be stated in the designation, the sequence being such that the threaded end is named first, e.g.

Stud M 12 - M 12 x 1.5 x 80 DIN 835 - 8.8

In exceptional cases, studs with M 10 x 1, M 12 x 1.5, M 18 x 2, M 20 x 2 and M 22 x 2 fine pitch thread may be ordered according to this Standard.

#### Explanations

Studs having a threaded end of s 2 d have so far been covered by DIN 835 and DIN 836, the arrangement being such that DIN 835 specified the same thread at each end of the stud whereas DIN 836 specified a regular pitch thread at the threaded end and a fine pitch thread at the nut end. As there is scarcely any demand nowadays for this type, DIN 836 was abandoned in favour of DIN 835. However, in order to allow this type to continue to be ordered in future according to standard specifications, provision has been made in this new issue of DIN 835 to include an appropriate example of a designation.

The representation of the studs has been changed. It now depicts the version with rolled thread which is to be deemed the usual type. It is not intended, however, that this shall exclude the type with machine cut thread, which can be supplied at option.

There is no representation of a stud with undercut at the threaded end (symbol R). This condition is specified in general terms in DIN 962 and can also be ordered on the basis of this standard when studs are concerned, without any need for it to be shown there separately once again.

In the interests of rationalized production, the distinction so far adopted of flat point at the threaded end and oval point at the nut end is now only specified for cases in which the two ends cannot be positively differentiated by the thread lengths (the longer length of thread denoting the nut end), and when the identification symbol of the strength category is not provided as a differentiating feature on the end face of the stud at the nut end.

The thread tolerance at the threaded end continues to be Sk 6 according to DIN 13 and DIN 14 Supplementary Sheet 14. However, because nowadays studs having the same tolerance zones for both threads are widely used, an example of a designation incorporating the symbol F<sub>o</sub> and, agreeing with DIN 962, has been included, the meaning of this symbol being that the usual 6 g tolerance zone for the nut end is to apply also to the thread at the threaded end.

During the formulation of the new version of this Standard there was some controversy about this ruling. However, it proved impossible to find any better solution so long as decision-making conditions are still awaited - both internationally and nationally - on the interference thread with ISO profile and so long as different types of grip are used, these being mainly

gripping on the effective diameter,  
gripping on the outside diameter,  
gripping on the thread runout.

The thread lengths at the nut end have been brought into line with ISO Recommendation ISO/R 888.

In keeping with this ISO Recommendation, the nominal length 15 mm has been replaced by 14 and 16 mm, the 16 mm length being preferred.

The usual manufacturing range has been bounded by stepped lines, but this is not intended to exclude the manufacture of lengths outside this range.

The strength categories have been renamed in accordance with DIN 267 Part 3 and in this process a reduction in grades has been accomplished.

The fine pitch thread has been brought into line with the selected series according to ISO/R 262 (DIN 13 Part 13). The previous fine pitch threads M 10 x 1, M 12 x 1.5, M 18 x 2, M 20 x 2 and M 22 x 2 have been sanctioned for use in exceptional cases.

The content of the Standard has been re-formulated.