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September 1986

Weld studs

DIN 525

Anschweißenden

Supersedes November 1970 edition.

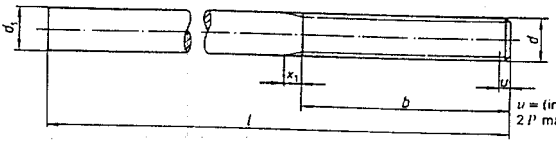
In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

Dimensions in mm

1 Scope and field of application

Weld studs are fasteners which are primarily selected because of their weldability. When determining what loadbearing capacity weld studs are to have, account shall be taken of their inherent strength, the part into which the studs are welded, and the intended function, e.g. use as components of turnbuckles or similar devices. Weld studs may be manufactured both with the shank diameter equal to the thread diameter (normal shank) and with the shank diameter approximating the pitch diameter. This does not impair the loadbearing capacity, since the strength values are specified on the basis of maximum loads (in terms of the cross-sectional area of the thread (see also ISO 898 Part 1)).

2 Dimensions



u = (incomplete thread); 2 P maximum.

DIN 78-K or DIN 78-L thread ends, at the manufacturer's discretion.

$x_1 = 2{,}5\,P$ maximum (as specified in DIN 76 Part 1).

Shank diameter ≈ thread diameter (type C) or ≈ pitch diameter (type B), at the manufacturer's discretion.

Thread size d		M 6	M 8	M 10	M 12	M 16	M 20	M 24	M 30	M 36	M 42	M 48
P [1]		1	1,25	1,5	1,75	2	2,5	3	3,5	4	4,5	5
b	$\approx \frac{2P}{0}$	35	40	45	55	65	75	85	105	125	145	165
d_s	max ≈ nominal size	6	8	10	12	16	20	24	30	36	42	48
	min [2]	≈ pitch diameter										
l	Nominal size	130	140	150	170	190	210	230	270	310	350	390
	min	128	138	148	168	187,7	207,7	227,7	267,4	307,4	347,1	387,1
	max	132	142	152	172	192,3	212,3	232,3	272,6	312,6	352,9	392,9
Mass (7,85 kg/dm³), in kg per 1000 units, approximately		26	49,2	83,5	135	273	473	745	1370	2280	3510	5110

[1] P = pitch of thread (coarse pitch thread)

[2] For a normal shank, tolerance class h15 shall apply for the shank diameter.

Continued on pages 2 and 3

3 Technical delivery conditions

Material		Steel
General requirements		As specified in DIN 267 Part 1
Thread	Tolerance class	8g
	Standard	DIN 13 Part 15
Mechanical properties [1]	Property class (material)	3.6, weldable [2]
	Standard	ISO 898 Part 1
Permissible dimensional deviations and deviations of form	Product grade	C
	Standard	ISO 4759 Part 1
Surface finish		As processed. If surface protection is required, e.g. hot dip galvanizing as specified in DIN 267 Part 10, this shall be subject to agreement.
Acceptance inspection		DIN 267 Part 5 shall apply with regard to acceptance inspection.

[1] Other weldable materials shall be subject to agreement.

[2] The specification of weldability for property class 3.6 weld studs in this standard is a departure from ISO 898 Part 1 in which weldability is not included in the field of application.

4 Designation

Designation of an M 10 weld stud (type C or type B, at the manufacturer's discretion), assigned to property class 3.6 [1]:

Weld stud DIN 525 – M 10 – 3.6

If a particular type of shank is required, the relevant letter symbol as specified in DIN 962 shall be stated in the designation, e.g.:

Weld stud DIN 525 – B M 10 – 3.6

Note. The symbol "Mu" given in the example of designation of the previous editions of the present standard made it possible to order weld studs fitted with hexagon nuts conforming to DIN 555. This no longer corresponds to current practice, where weld studs and nuts (e.g. as specified in DIN 555 or DIN 972) are always designated and ordered separately in accordance with the relevant standard. Taking the previous specifications into consideration, the symbol "Mu" in the designation shall apply for delivery with hexagon nut as specified in DIN 555, e.g.:

Weld stud DIN 525 – M 10 – 3.6 – Mu

The DIN 4000 – 2·4 tabular layout of article characteristics shall apply to weld studs as specified in this standard.

[1] Where no property class is given in existing documentation, property class 3.6 shall also apply.

Standards referred to

DIN 13 Part 15	ISO metric screw threads; fundamental deviations and tolerances for screw threads of 1 mm in diameter and larger
DIN 76 Part 1	Thread run-outs and thread undercuts for ISO metric screw threads as specified in DIN 13
DIN 78	Thread ends, lengths of projection of thread ends for ISO metric screw threads as defined in DIN 13
DIN 267 Part 1	Fasteners; technical delivery conditions, general requirements
DIN 267 Part 5	Fasteners; technical delivery conditions; acceptance inspection (modified version of ISO 3269, 1984 edition)
DIN 267 Part 10	Fasteners; technical delivery conditions; hot dip galvanized parts
DIN 555	M 5 to M 100 × 6 hexagon nuts; product grade C
DIN 962	Screws, bolts, studs and nuts; designations, types and finishes
DIN 972	M 5 to M 39 hexagon nuts; style 1; product grade C (modified version of ISO 4034)
DIN 4000 Part 2	Tabular layouts of article characteristics for bolts, studs and nuts
ISO 898 Part 1	Mechanical properties of fasteners; bolts, screws and studs
ISO 4759 Part 1	Tolerances for fasteners. Part 1: Bolts, screws and nuts with thread diameters between 1,6 (inclusive) and 150 mm (inclusive) and product grades A, B and C

Previous editions

DIN 525 Part 1: 01.41, 06.53, 03.63; DIN 525: 11.70.

Amendments

The following amendments have been made in comparison with the November 1970 edition.

a) The previous design g as specified in DIN 267 Part 2, April 1968 edition, has been replaced by product grade C as specified in ISO 4759 Part 1.

b) Limiting dimensions calculated from the permissible tolerances have been included.

c) The technical delivery conditions have been amended.

d) The designation of weld studs with nuts has been deleted.

e) The content of the standard has been editorially revised.

International Patent Classification

B 23 K 31/02
F 16 G 11/12