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Threads and thread ends for tapping screws

(modified version of ISO 1478)

DIN

970

Gewinde und Schraubenden für Blechschrauben; ISO 1478 modifiziert

Supersedes the
July 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.

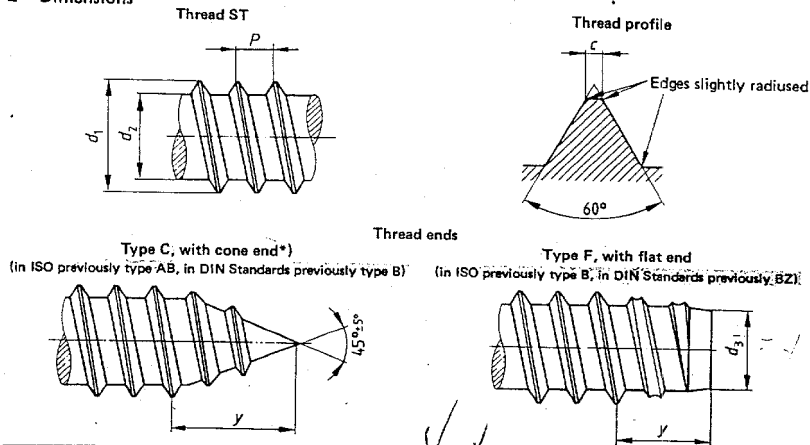
This standard incorporates all the relevant specifications of International Standard ISO 1478 — 1983, with national additions. These additions are shaded grey in clauses 2 and 3.

Dimensions in mm

1 Scope and field of application

This standard specifies the thread and thread ends of tapping screws of thread sizes from ST 1,5 up to and including ST 9,5.

2 Dimensions



Thread size	ST 1,5	ST 1,9	ST 2,2	ST 2,6	ST 2,9	ST 3,3	ST 3,5	ST 3,9	ST 4,2	ST 4,8	ST 5,5	ST 6,3	ST 8	ST 9,5	
P	≈ 0,5	0,6	0,8	0,9	1,1	1,3	1,3	1,4	1,4	1,6	1,8	1,8	2,1	2,1	
d_1	max.	1,52	1,9	2,24	2,57	2,9	3,3	3,53	3,91	4,22	4,8	5,46	6,25	8	9,65
	min.	1,38	1,76	2,1	2,43	2,76	3,12	3,35	3,73	4,04	4,62	5,28	6,03	7,78	9,43
d_2	max.	0,91	1,24	1,63	1,9	2,18	2,39	2,64	2,92	3,1	3,58	4,17	4,88	6,2	7,85
	min.	0,84	1,17	1,52	1,8	2,08	2,29	2,51	2,77	2,95	3,43	3,99	4,7	5,99	7,59
d_3	max.	0,79	1,12	1,47	1,73	2,01	2,21	2,41	2,67	2,84	3,3	3,86	4,55	5,84	7,44
	min.	0,69	1,02	1,37	1,6	1,88	2,08	2,26	2,51	2,69	3,12	3,68	4,34	5,64	7,24
c	max.	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,15	0,15	0,15	0,15	0,15	
y	Type C	1,4	1,6	2	2,3	2,6	3	3,2	3,5	3,7	4,3	5	6	7,5	8
	max.) Type F	1,1	1,2	1,6	1,8	2,1	2,5	2,5	2,7	2,8	3,2	3,6	3,6	4,2	4,2
Number ²⁾	0	1	2	3	4	5	6	7	8	10	12	14	16	20	

1) Length of incomplete thread (cone end or flat end).

2) Only for information on customary code numbers used on in-house documents.

*1) No extrusion of excess metal beyond the apex of the type C cone end resulting from thread rolling shall be permissible. A slight rounding of the point is desirable.

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3 Designation

Designation of a tapping screw thread of thread size ST 3.5:

Thread DIN 7990 – ST 3.5

In drawings, designation ST 3.5 will be sufficient.

The designation in accordance with ISO 1478 will read for example:

Tapping screw thread ISO 1478 – ST 3.5

Note 1: In ISO 1478 – 1983, the length of dog point y is given as an approximate dimension. In the present standard, as in the previous edition, it is given as the maximum dimension, so that the effective thread length for very short tapping screws may be exactly determined.

Standards referred to

ISO 1478 Tapping screws thread

Previous editions

DIN 7970: 08.52, 12.56, 07.70

Amendments

The following amendments have been made in comparison with the July 1970 edition:

- a) The content of the standard has been aligned with International Standard ISO 1478.
- b) The thread symbols have been added.
- c) Thread sizes ST 1,5, ST 1,9, ST 2,6, ST 3,3 and ST 9,5 have been included. The type symbols for thread ends have been changed.
- e) The designation as given in ISO 1478 has been included.

Explanatory notes

Incorporation of ISO 1478 – 1983 has not led to any changes which might prejudice interchangeability in comparison with previous specifications. The addition of the letters ST to the thread symbol does not require that existing documents be reviewed. The same applies to thread ends. Though the type symbols have been changed, the new type symbols cannot be confused with the old. The relevant DIN Standards on tapping screws are being converted so that existing documents need not be revised. The addition of thread symbols and new type symbols for thread ends has brought about an international uniformity, the lack of which previously gave rise to confusion (see Explanatory notes in the July 1970 edition).

On the occasion of the publication of draft international standards on so-called small screws (slotted head screws, cross recessed head screws, tapping screws) in September 1981, a detailed report on the international and national situation relating to the standardization of small screws appeared in *DIN-Mitteilungen* (DIN Bulletin) 60, 1981, No. 10, pp. 653-656. Attention is drawn to this report.

The present German version of ISO 1478 does not include the 'Foreword' from the English version of the International Standard, as this foreword does not give any substantial specifications but only indicates ISO's status and names those ISO member bodies which approved the standard and those which expressed disapproval on technical grounds.

Interested parties may consult the original version of the ISO Standard, which is obtainable from *Beuth Verlag GmbH*, Burggrafenstraße 4–10, 1000 Berlin 30.

International Patent Classification

F 16 B 35-00