



WD 900

General Specifications for Spaced Thread Tapping Screws

1. SCOPE.

This standard specifies the general and dimensional requirements for spaced thread tapping screws with various head forms.

2. REFERENCES.

- ISO 1478 - Tapping Screws Thread
- WD 950 - Material and Performance requirements for Carbon Steel Tapping Screws

3. GENERAL REQUIREMENTS.

3.1 DIMENSIONS AND TOLERANCES.

The dimensions and tolerances of Pan Head, Round Washer Head, Raised Countersunk Head, Flat Countersunk Head, Hexagon Head and Flanged Hexagon Head Spaced Thread Tapping screws must be in accordance with Tables 1 thru 6, Figures 1 thru 5 included in Clauses 2 thru 7, and Appendices A, B and C as appropriate.

3.2 SCREW THREADS.

3.2.1 THREAD LENGTH.

For types AB and B screws of nominal lengths equal to 8 diameter or 38mm, whichever is shorter, the full form threads shall extend close to the head such that the specified minor diameter limits are maintained to within one pitch maximum from the underside of head.

Screws of longer nominal lengths shall have a minimum length of full form thread equal to 6 diameters or 38mm, whichever is shorter.

3.2.2 SCREW LENGTH.

The length of the screw shall be measured parallel to the axis of the screw from the largest diameter of the bearing surface of the head to the extreme point. The tolerance on length shall be as specified in Table 1 with minimum practical screw lengths as shown in Table 1a.

**WD 900****General Specifications for Spaced Thread Tapping Screws****Table 1. Tolerance on length**

Screw Type	Nominal Screw Length	Tolerance on
AB	Up to 25mm inclusive	+/- 0.8
	Over 25mm	+/- 1.3
B, D and TR	Up to 20mm inclusive	+/- 0.8
	Over 20mm to 40mm inclusive	+/- 1.3
	Over 40mm	+/- 1.5

Table 1a. Minimum practical screw lengths**Dimensions in mm**

Nominal Size	90° Heads		Countersunk Heads	
	Type	Type B	Type	Type B
ST 2.9	4.8	3.6	5.5	4.8
ST 3.5	5.5	4.4	6.7	6.3
ST 4.2	7.1	4.8	8.3	6.3
ST 4.8	8.3	5.9	9.5	7.9
ST 5.5	9.5	7.1	10.3	9.5
ST 6.3	10.3	7.1	11.9	9.5

3.2.3 THREAD FORM. Thread form shall be as specified in ISO 1478.

3.3 RECESSES.

The dimensions and tolerances of recesses in Pan Head, Round Washer Head, Raised Countersunk Head and Flat Countersunk Tapping Screws shall be in accordance with Appendix B.

3.4 GAUGING.

3.4.1 COUNTERSUNK HEADS. For referee purposes the dimensions k and d_k are satisfied if the heads meet the gauging requirements specified in Appendix C.

3.4.2 PENETRATION GAUGE. The method of penetration gauging, the gauge and the gauge point are defined in Appendix B.

4. GENERAL REQUIREMENTS - PAN HEAD.

4.1 HEAD DIMENSIONS. Head dimensions shall be as specified in Table 2.

NOTE: The truncation of the rounded surface due to the cross recess is not considered part of the head height.

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4.2 CROSS RECESS DEPTH.

The depth of cross recess (penetration gauging) shall be measured parallel to the axis of the screw shank and shall be in accordance with values specified in Appendix B.

Figure 1. Pan head screws

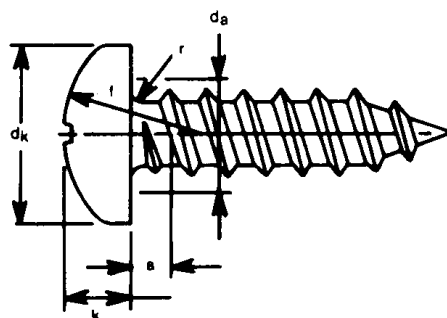


Table 2. Principle head dimensions

Dimensions in mm

Nominal Size		ST2.9	ST3.5	ST4.2	ST4.8	ST6.3
Pitch		1.1	1.3	1.4	1.6	1.8
d_k	max	5.6	7	8	9.5	12
	min	5.3	6.6	7.6	9.1	11.5
k	max	2.4	2.6	3.1	3.7	4.6
	min	2.2	2.3	2.8	3.4	4.3
a	max	1.1	1.3	1.4	1.6	1.8
d_a	max	3.5	4.1	5	5.6	7.3
f	ref	5	6	6.5	8	10
Driver Size		1	2	2	2	3
r	min	0.1	0.1	0.2	0.2	0.25

5. GENERAL REQUIREMENTS - COUNTERSUNK HEADS.

5.1 HEAD DIMENSIONS.

5.1.1 OVAL HEAD. See Table 4.1.

5.1.2 FLAT HEAD. See Table 4.2

NOTE: On heads having rounded top surfaces, the truncation of the rounded surface due to the recess is not considered part of the head height.