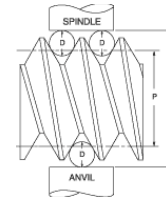


THREAD MEASUREMENT USING THREAD WIRES



Please note that that the values given for **X** on this page are not intended for thread plug gauge calibration.

The table below shows, among other things, which wire (cylinder) diameter (**W**) should be used when measuring the pitch diameter on various thread types.

Metric 60°			Whitworth 55°			UN (American) 60°		
P (mm)	W (mm)	X (mm)	TPI (P mm)	W (mm)	X (mm)	TPI (P mm)	W (mm)	X (mm)
0,5	0,29	0,44	48 (0,529)	0,335	0,55	56 (0,454)	0,29	0,48
0,6	0,335	0,49	40 (0,635)	0,335	0,45	48 (0,529)	0,335	0,55
0,7	0,455	0,76	32 (0,794)	0,53	0,92	44 (0,577)	0,335	0,51
0,75	0,455	0,715	28 (0,907)	0,53	0,81	40 (0,635)	0,335	0,46
0,8	0,455	0,67	26 (0,977)	0,62	1,03	36 (0,706)	0,455	0,75
1,0	0,62	1,00	24 (1,058)	0,62	0,95	32 (0,794)	0,455	0,68
1,25	0,725	1,09	22 (1,155)	0,725	1,19	28 (0,907)	0,53	0,81
1,5	0,895	1,39	20 (1,270)	0,725	1,08	24 (1,058)	0,62	0,94
1,75	1,10	1,79	19 (1,337)	0,725	1,01	20 (1,270)	0,725	1,08
2	1,35	2,32	18 (1,411)	0,895	1,48	18 (1,411)	0,895	1,46
2,5	1,65	2,79	16 (1,588)	0,895	1,31	16 (1,588)	0,985	1,58
3	2,05	3,555	14 (1,814)	1,10	1,74	14 (1,814)	1,10	1,73
3,5	2,05	3,12	12 (2,117)	1,35	2,24	13 (1,953)	1,10	1,61
4	2,55	4,19	11 (2,309)	1,35	2,06	12 (2,117)	1,35	2,22
4,5	2,55	3,755	10 (2,540)	1,65	2,78	11 (2,309)	1,35	2,05
5	3,20	5,27	9 (2,822)	1,65	2,51	10 (2,540)	1,65	2,75
5,5	3,20	4,84	8 (3,175)	2,05	3,44	9 (2,822)	1,65	2,51
			7 (3,629)	2,05	3,00	8 (3,175)	2,05	3,40
			6 (4,233)	2,55	4,01	7 (3,629)	2,05	3,01
			5 (5,080)	3,20	5,25	6 (4,233)	2,55	3,98
			4,5 (5,644)	3,20	4,71	5 (5,080)	3,20	5,20
						4,5 (5,644)	3,20	4,71

P = Pitch in mm or T.P.I. (Threads Per Inch)

W = Wire diameter

X = the number to be subtracted from the measurement result to find pitch diameter d_2

V^0 = flank angle

The theoretically correct wire diameter can be calculated from the following formula :-

where $V^0 = 60^0$ $W = 0,57735 P$ or where $V^0 = 55^0$ $W = 0,56368 P$

Pitch diameter d_2 can also be calculated from :-

where $V^0 = 60^0$ $d_2 = \text{Measurement over wires} + 0,866P - 3W$ $X = + 0,866P - 3W$

where $V^0 = 55^0$ $d_2 = \text{Measurement over wires} + 0,9605P - 3,1657W$ $X = + 0,9605P - 3,1657W$

N.B. when calculating use the actual wire diameter.

The measurement over the wires **must** be greater than the thread's diameter (d).