

FLANK ANGLE TOLERANCES FOR METRIC AND UN (Unified Inch) THREADS

Allowable variation in 30° basic half angle of external and internal screw threads

Ref. ISO 1502 general-purpose metric screw threads – Gauges and gauging

Pitch mm	Allowable variation in half angle of thread		Pitch mm	Allowable variation in half angle of thread	
	±deg.	min		±deg.	min
0.2	1	00	1.25	0	13 (16)
0.25	0	48	1.5	0	12 (16)
0.3	0	40	1.75	0	11 (16)
0.35	0	35	2	0	10 (14)
0.4	0	31	2.5	0	10 (14)
0.45	0	26	3	0	9 (13)
0.5	0	25	3.5	0	9 (12)
0.6	0	21	4	0	8 (11)
0.7	0	18	4.5	0	8 (11)
0.75	0	17	5	0	8 (11)
0.8	0	16	5.5	0	8 (10)
1	0	15 (16)	6	0	8 (10)
			8	0	8 (10)

N.B. The tolerance values in brackets are for internal threads.
All tolerances are otherwise valid for both external and internal threads

Ref. ASME B1.1 Unified Inch Screw Threads

Pitch TPI	Allowable variation in half angle of thread		Pitch TPI	Allowable variation in half angle of thread	
	±deg.	min		±deg.	min
80	3	00	13	0	55
72	2	45	12	0	50
64	2	30	11½	0	50
56	2	15	11	0	50
48	2	00	10	0	50
44	1	50	9	0	50
40	1	45	8	0	45
36	1	35	7	0	45
32	1	30	6	0	40
28	1	20	5	0	40
27	1	20	4½	0	40
24	1	15	4	0	40
20	1	10			
18	1	05			
16	1	00			
14	0	50			

Unified Inch Screw Threads are UNC, UNF, UNEF, UN, UNS etc.