

Inch and metric thread pitch charts

Inch & Metric Thread Standards

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Inch and metric thread sizes are specified differently. Inch thread sizes are specified by the nominal major diameter and the number of threads per inch. For example, a 1/4-20 (UNC coarse) thread has a 1/4" nominal major diameter and 20 threads per inch, while a 1/4-28 (UNF fine) thread has the same nominal major diameter but 28 threads per inch.

Metric thread specifications are different because the thread pitch is defined by the distance between each thread in mm instead of threads per inch. For example, an M12x1.75 (coarse) thread has a 1.75mm pitch, while an M12x1.50 (fine) thread has a 1.50mm pitch.

Both DIN and ISO standards for metric threads ignore the pitch callout on coarse threads. For example, a thread diameter defined as "M12" indicates a coarse pitch (M12-1.75).

Metric - Coarse and Fine Thread Pitch Chart

Diameter	Coarse Pitch	Fine Thread Pitches		
M1	0.25	0.2		
M1.2	0.25	0.2		
M1.4	0.3	0.2		
M1.6	0.35	0.2		
M1.7	0.35			
M1.8	0.35	0.2		
M2	0.4	0.25		
M2.2	0.45	0.25		
M2.3	0.4			
M2.5	0.45	0.35		
M2.6	0.45			
M3	0.5	0.35		
M3.5	0.6	0.35		
M4	0.7	0.5		
M5	0.8	0.5		
M6	1	0.75		
M7	1	0.75		
M8	1.25	1	0.75	
M9	1.25	1	0.75	
M10	1.5	1.25	1	0.75
M11	1.5	1	0.75	
M12	1.75	1.5	1.25	1
M14	2	1.5	1.25	1

Diameter	Coarse Pitch	Fine Thread Pitches		
M16	2	1.5	1	
M18	2.5	2	1.5	1
M20	2.5	2	1.5	1
M22	2.5	2	1.5	1
M24	3	2	1.5	1
M27	3	2	1.5	1
M30	3.5	3	2	1.5
M33	3.5	3	2	1.5
M36	4	3	2	1.5
M39	4	3	2	1.5
M42	4.5	4	3	2
M45	4.5	4	3	2
M48	5	4	3	2
M52	5	4	3	2
M56	5.5	4	3	2
M60	5.5	4	3	2
M64	6	4	3	2
M68	6	4	3	2
M72	6	4	3	2
M80	6	4	3	2
M90	6	4	3	2
M100	6	4	3	2

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UNC-Unified National Coarse Thread Pitch

UNC threads according ANSI B1.1:

Major Diameter (in)	Threads per inch	Major Dia. (in)	Major Dia. (mm)	Tap Drill Size (mm)	Pitch (mm)
#1 - 64	64	0.073	1.854	1.5	0.397
#2 - 56	56	0.086	2.184	1.8	0.453
#3 - 48	48	0.099	2.515	2.1	0.529
#4 - 40	40	0.112	2.845	2.35	0.635
#5 - 40	40	0.125	3.175	2.65	0.635
#6 - 32	32	0.138	3.505	2.85	0.794
#8 - 32	32	0.164	4.166	3.5	0.794
#10 - 24	24	0.19	4.826	4	1.058
#12 - 24	24	0.216	5.486	4.65	1.058
1/4" - 20	20	0.25	6.35	5.35	1.27
5/16" - 18	18	0.313	7.938	6.8	1.411
3/8" - 16	16	0.375	9.525	8.25	1.587
7/16" - 14	14	0.438	11.112	9.65	1.814
1/2" - 13	13	0.5	12.7	11.15	1.954
9/16" - 12	12	0.563	14.288	12.6	2.117
5/8" - 11	11	0.625	15.875	14.05	2.309
3/4" - 10	10	0.75	19.05	17	2.54
7/8" - 9	9	0.875	22.225	20	2.822
1" - 8	8	1	25.4	22.85	3.175
1 1/8" - 7	7	1.125	28.575	25.65	3.628
1 1/4" - 7	7	1.25	31.75	28.85	3.628
1 3/8" - 6	6	1.375	43.925	31.55	4.233
1 1/2" - 6	6	1.5	38.1	34.7	4.233
1 3/4" - 5	5	1.75	44.45	40.4	5.08
2" - 4 1/2	4 1/2	2	50.8	46.3	5.644
2 1/4" - 4 1/2	4 1/2	2.25	57.15	52.65	5.644
2 1/2" - 4	4	2.5	63.5	58.5	6.35
2 3/4" - 4	4	2.75	69.85	64.75	6.35
3" - 4	4	3	76.2	71.1	6.35
3 1/4" - 4	4	3.25	82.55	77.45	6.35
3 1/2" - 4	4	3.5	88.9	83.8	6.35
3 3/4" - 4	4	3.75	95.25	90.15	6.35
4" - 4	4	4	101.6	96.5	6.35

UNF - Unified National Fine Thread Pitch

UNF threads ANSI B1.1:

Major Diameter (in)	Threads per inch	Major Dia. (in)	Major Dia. (mm)	Tap Drill Size (mm)	Pitch (mm)
#0 - 80	80	0.06	1.524	1.25	0.317
#1 - 72	72	0.073	1.854	1.55	0.353
#2 - 64	64	0.086	2.184	1.9	0.397
#3 - 56	56	0.099	2.515	2.15	0.453
#4 - 48	48	0.112	2.845	2.4	0.529
#5 - 44	44	0.125	3.175	2.7	0.577
#6 - 40	40	0.138	3.505	2.95	0.635
#8 - 36	36	0.164	4.166	3.5	0.705
#10 - 32	32	0.19	4.826	4.1	0.794
#12 - 28	28	0.216	5.486	4.7	0.907
1/4" - 28	28	0.25	6.35	5.5	0.907
5/16" - 24	24	0.313	7.938	6.9	1.058
3/8" - 24	24	0.375	9.525	8.5	1.058
7/16" - 20	20	0.438	11.112	9.9	1.27
1/2" - 20	20	0.5	12.7	11.5	1.27
9/16" - 18	18	0.563	14.288	12.9	1.411
5/8" - 18	18	0.625	15.875	14.5	1.411
3/4" - 16	16	0.75	19.05	17.5	1.587
7/8" - 14	14	0.875	22.225	20.4	1.814
1" - 12	12	1	25.4	23.25	2.117
1 1/8" - 12	12	1.125	28.575	26.5	2.117
1 1/4" - 12	12	1.25	31.75	29.5	2.117
1 3/8" - 12	12	1.375	34.925	32.75	2.117
1 1/2" - 12	12	1.5	38.1	36	2.117



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