

ISO Metric Threads (Regular Pitch)

In accordance with the ISO International Standard, a regular pitch metric thread is designated by the letter **M** followed by the nominal diameter (major diameter) in mm. Example: **M 8**

Most commonly used sizes (all dimensions are in millimeters)									
Bolt Threads				Nominal Size		Nut Threads			
Major Diameter		Pitch Diameter		1st Choice Progression		Pitch Diameter		Minor Diameter	
max	min	max	min	Designation	Pitch	max	min	max	min
1.000	0.933	0.838	0.785	M 1	0.25	0.894	0.838	0.785	0.729
1.200	1.133	1.038	0.985	M 1,2	0.25	1.094	1.038	0.985	0.929
1.581	1.496	1.354	1.291	M 1,6	0.35	1.458	1.373	1.321	1.221
1.981	1.886	1.721	1.654	M 2	0.40	1.830	1.740	1.679	1.567
2.480	2.380	2.188	2.117	M 2,5	0.45	2.303	2.208	2.138	2.013
2.980	2.874	2.655	2.580	M 3	0.50	2.775	2.675	2.599	2.459
3.978	3.838	3.523	3.433	M 4	0.70	3.663	3.545	3.422	3.242
4.976	4.826	4.456	4.361	M 5	0.80	4.605	4.480	4.334	4.134
5.974	5.794	5.324	5.212	M 6	1.00	5.500	5.350	5.153	4.917
7.972	7.760	7.160	7.042	M 8	1.25	7.348	7.188	6.912	6.647
9.968	9.732	8.994	8.862	M 10	1.50	9.206	9.026	8.676	8.376
11.966	11.701	10.829	10.679	M 12	1.75	11.063	10.863	10.441	10.106
15.962	15.682	14.663	14.503	M 16	2.00	14.913	14.701	14.210	13.835
19.958	19.623	18.334	18.164	M 20	2.50	18.600	18.376	17.744	17.294
23.952	23.577	22.003	21.803	M 24	3.00	22.316	22.051	21.252	20.752
29.947	29.522	27.674	27.462	M 30	3.50	28.007	27.727	26.771	26.211
35.940	35.465	33.342	33.118	M 36	4.00	33.702	33.402	32.270	31.670

ISO Metric Threads (Fine Pitch)

In accordance with the ISO International Standard, a fine pitch metric thread is designated by the letter **M** followed by the nominal diameter (major diameter) in mm and by the pitch in mm, separated by the sign **x**. Example: **M 8 x 1**

Most commonly used sizes (all dimensions are in millimeters)									
Bolt Threads				Nominal Size		Nut Threads			
Major Diameter		Pitch Diameter		1st Choice Progression		Pitch Diameter		Minor Diameter	
max	min	max	min	Designation	Pitch	max	min	max	min
7.974	7.794	7.324	7.212	M 8 x 1	1.00	7.500	7.350	7.153	6.917
9.972	9.760	9.160	9.042	M 10 x 1,25	1.25	9.348	9.188	8.912	8.647
11.972	11.760	11.160	11.028	M 12 x 1,25	1.25	11.368	11.188	10.912	10.647
15.968	15.732	14.994	14.854	M 16 x 1,5	1.50	15.216	15.026	14.676	14.376
19.968	19.732	18.994	18.854	M 20 x 1,5	1.50	19.216	19.026	18.676	18.375
23.962	23.682	22.663	22.493	M 24 x 2	2.00	22.925	22.701	22.210	21.835
29.962	29.682	28.663	28.493	M 30 x 2	2.00	28.925	28.701	28.210	27.835
35.952	35.577	34.003	33.803	M 36 x 3	3.00	34.316	34.051	33.252	32.752



ISO Metric Threads (Regular Pitch)

Approximate Imperial Dimensions of Metric Threads

Nominal Size		Approx. Inches Dimensions				
1st Choice Progression		Threads per Inch	Major Diameter		Minor Diameter	
Designation	Pitch	count	max	min	max	min
M 3	0.50	50.8	0.117	0.113	0.102	0.097
M 4	0.70	36.3	0.157	0.151	0.135	0.128
M 5	0.80	31.8	0.196	0.190	0.171	0.163
M 6	1.00	25.4	0.235	0.228	0.203	0.194
M 8	1.25	20.3	0.314	0.306	0.272	0.262
M 10	1.50	16.9	0.392	0.383	0.342	0.330
M 12	1.75	14.5	0.471	0.461	0.411	0.398
M 16	2.00	12.7	0.628	0.617	0.559	0.545
M 20	2.50	10.2	0.786	0.773	0.699	0.681
M 24	3.00	8.5	0.943	0.928	0.837	0.817
M 30	3.50	7.3	1.179	1.162	1.054	1.032
M 36	4.00	6.4	1.415	1.396	1.270	1.247

ISO Metric Threads (Fine Pitch)

Approximate Imperial Dimensions of Metric Threads

Nominal Size		Approx. Inches Dimensions				
1st Choice Progression		Threads per Inch	Major Diameter		Minor Diameter	
Designation	Pitch	count	max	min	max	min
M 8 x 1	1.00	25.4	0.314	0.307	0.282	0.272
M 10 x 1,25	1.25	20.3	0.393	0.384	0.351	0.340
M 12 x 1,25	1.25	20.3	0.471	0.463	0.430	0.419
M 16 x 1,5	1.50	16.9	0.629	0.619	0.578	0.566
M 20 x 1,5	1.50	16.9	0.786	0.777	0.735	0.723
M 24 x 2	2.00	12.7	0.943	0.932	0.874	0.860
M 30 x 2	2.00	12.7	1.180	1.169	1.111	1.096
M 36 x 3	3.00	8.5	1.415	1.401	1.309	1.289

ISO Metric Threads (Regular Pitch)

Recommended Tightening Torques for Class 8.8 Bolts and Nuts

Nominal Size			Tightening Torques			
1st Choice Progression			Black Untreated		Zinc Plated	
Designation	Pitch	Wrench Opening	Nm	ft lb.	Nm	ft lb.
M 3	0.50	5.5	1.37	1.01	1.28	0.94
M 4	0.70	7.0	3.1	2.29	2.9	2.14
M 5	0.80	8.0	6.15	4.54	5.75	4.24
M 6	1.00	10.0	10.5	7.7	9.9	7.3
M 8	1.25	13.0	26.0	19.0	24.0	17.7
M 10	1.50	17.0	51.0	37.0	48.0	35.0
M 12	1.75	19.0	89.0	65.0	83.0	61.0
M 16	2.00	24.0	215.0	158.0	200.0	147.0
M 20	2.50	30.0	420.0	309.0	390.0	287.0
M 24	3.00	36.0	725.0	534.0	675.0	497.0
M 30	3.50	46.0	1450.0	1069.0	1350.0	995.0
M 36	4.00	55.0	2530.0	1865.0	2360.0	1740.0

ISO Metric Threads (Fine Pitch)

Recommended Tightening Torques for Class 8.8 Bolts and Nuts

Nominal Size			Tightening Torques			
1st Choice Progression			Black Untreated		Zinc Plated	
Designation	Pitch	Wrench Opening	Nm	ft lb.	Nm	ft lb.
M 8 x 1	1.00	13	27	19	25	18
M 10 x 1,25	1.25	17	52	38	49	36
M 12 x 1,25	1.25	19	95	70	88	64
M 16 x 1,5	1.50	24	225	165	210	154
M 20 x 1,5	1.50	30	460	339	425	313
M 24 x 2	2.00	36	780	575	720	531