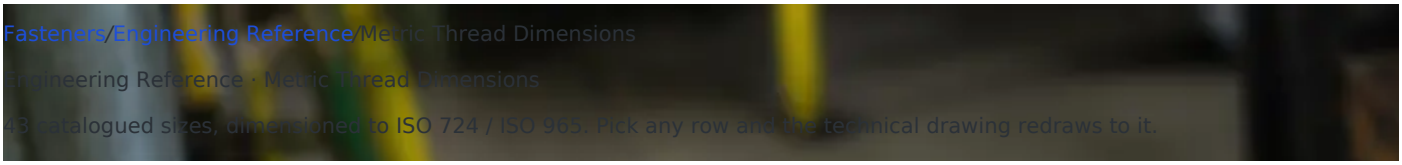
Metric Thread Dimensions

Engineering Hardware & Fasteners · engineeringhardware.com/fastener/metric-thread-dimensions



Metric Thread Dimensions to ISO 724 / ISO 965 are catalogued in sizes M1 to M80, with pitch 0.25-6 mm, dia 0.84-76.1 mm. 43 sizes are held in the table below, and the technical drawing redraws to whichever row you select.

Standard
: ISO 724 / ISO 965

Size range
: M1-M80

Pitch
: 0.25-6 mm

Dia
: 0.84-76.1 mm

Catalogued sizes
: 43

Dimensions are nominal values from the governing standard. Confirm the tolerance class for your application before ordering.

Metric Thread Dimensions are engineering reference manufactured to ISO 724 / ISO 965. This page lists the full dimensional range with the key specifications engineers need to select and specify them.

About This Reference

This is an engineering reference table for metric thread dimensions based on ISO 724 / ISO 965. Use it alongside our fastener catalog when selecting and specifying parts.

Reference Data (ISO 724 / ISO 965)

Size	Pitch coarse (mm)	Pitch diameter d2/D2 (mm)	Minor dia external d3 (mm)	Minor dia internal D1 (mm)	Stress area (mm2)	Reference standard
M1	0.25	0.838	0.693	0.729	0.46	ISO 724 / ISO 965-1
M1.1	0.25	0.938	0.793	0.829	0.606	ISO 724 / ISO 965-1
M1.2	0.25	1.038	0.893	0.929	0.732	ISO 724 / ISO 965-1
M1.4	0.3	1.205	1.032	1.075	1.0	ISO 724 / ISO 965-1
M1.6	0.35	1.373	1.171	1.221	1.27	ISO 724 / ISO 965-1
M1.8	0.35	1.573	1.371	1.421	1.7	ISO 724 / ISO 965-1
M2	0.4	1.74	1.509	1.567	2.07	ISO 724 / ISO 965-1
M2.2	0.45	1.908	1.648	1.713	2.48	ISO 724 / ISO 965-1
M2.5	0.45	2.208	1.948	2.013	3.39	ISO 724 / ISO 965-1
M3	0.5	2.675	2.387	2.459	5.03	ISO 724 / ISO 965-1
M3.5	0.6	3.11	2.764	2.85	6.78	ISO 724 / ISO 965-1
M4	0.7	3.545	3.141	3.242	8.78	ISO 724 / ISO 965-1
M4.5	0.75	4.013	3.58	3.688	11.3	ISO 724 / ISO 965-1
M5	0.8	4.48	4.019	4.134	14.2	ISO 724 / ISO 965-1
M6	1.0	5.35	4.773	4.917	20.1	ISO 724 / ISO 965-1

Size	Pitch coarse (mm)	Pitch diameter d2/D2 (mm)	Minor dia external d3 (mm)	Minor dia internal D1 (mm)	Stress area (mm2)	Reference standard
M7	1.0	6.35	5.773	5.917	28.9	ISO 724 / ISO 965-1
M8	1.25	7.188	6.466	6.647	36.6	ISO 724 / ISO 965-1
M9	1.25	8.188	7.466	7.647	51.0	ISO 724 / ISO 965-1
M10	1.5	9.026	8.16	8.376	58.0	ISO 724 / ISO 965-1
M11	1.5	10.026	9.16	9.376	72.3	ISO 724 / ISO 965-1
M12	1.75	10.863	9.853	10.106	84.3	ISO 724 / ISO 965-1
M14	2.0	12.701	11.546	11.835	115.0	ISO 724 / ISO 965-1
M16	2.0	14.701	13.546	13.835	157.0	ISO 724 / ISO 965-1
M18	2.5	16.376	14.933	15.294	193.0	ISO 724 / ISO 965-1
M20	2.5	18.376	16.933	17.294	245.0	ISO 724 / ISO 965-1
M22	2.5	20.376	18.933	19.294	303.0	ISO 724 / ISO 965-1
M24	3.0	22.051	20.32	20.752	353.0	ISO 724 / ISO 965-1
M27	3.0	25.051	23.32	23.752	459.0	ISO 724 / ISO 965-1
M30	3.5	27.727	25.706	26.211	561.0	ISO 724 / ISO 965-1
M33	3.5	30.727	28.706	29.211	694.0	ISO 724 / ISO 965-1
M36	4.0	33.402	31.093	31.67	817.0	ISO 724 / ISO 965-1

Size	Pitch coarse (mm)	Pitch diameter d2/D2 (mm)	Minor dia external d3 (mm)	Minor dia internal D1 (mm)	Stress area (mm2)	Reference standard
M39	4.0	36.402	34.093	34.67	976.0	ISO 724 / ISO 965-1
M42	4.5	39.077	36.479	37.129	1120.0	ISO 724 / ISO 965-1
M45	4.5	42.077	39.479	40.129	1310.0	ISO 724 / ISO 965-1
M48	5.0	44.752	41.866	42.587	1470.0	ISO 724 / ISO 965-1
M52	5.0	48.752	45.866	46.587	1760.0	ISO 724 / ISO 965-1
M56	5.5	52.428	49.252	50.046	2030.0	ISO 724 / ISO 965-1
M60	5.5	56.428	53.252	54.046	2360.0	ISO 724 / ISO 965-1
M64	6.0	60.103	56.639	57.505	2680.0	ISO 724 / ISO 965-1
M68	6.0	64.103	60.639	61.505	3060.0	ISO 724 / ISO 965-1
M72	6.0	68.103	64.639	65.505	3460.0	ISO 724 / ISO 965-1
M76	6.0	72.103	68.639	69.505	3900.0	ISO 724 / ISO 965-1
M80	6.0	76.103	72.639	73.505	4340.0	ISO 724 / ISO 965-1

Inside the plant

Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.

1. 

01

Cold heading

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.

2. 

02

Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.

3. 

03

Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.

4. 

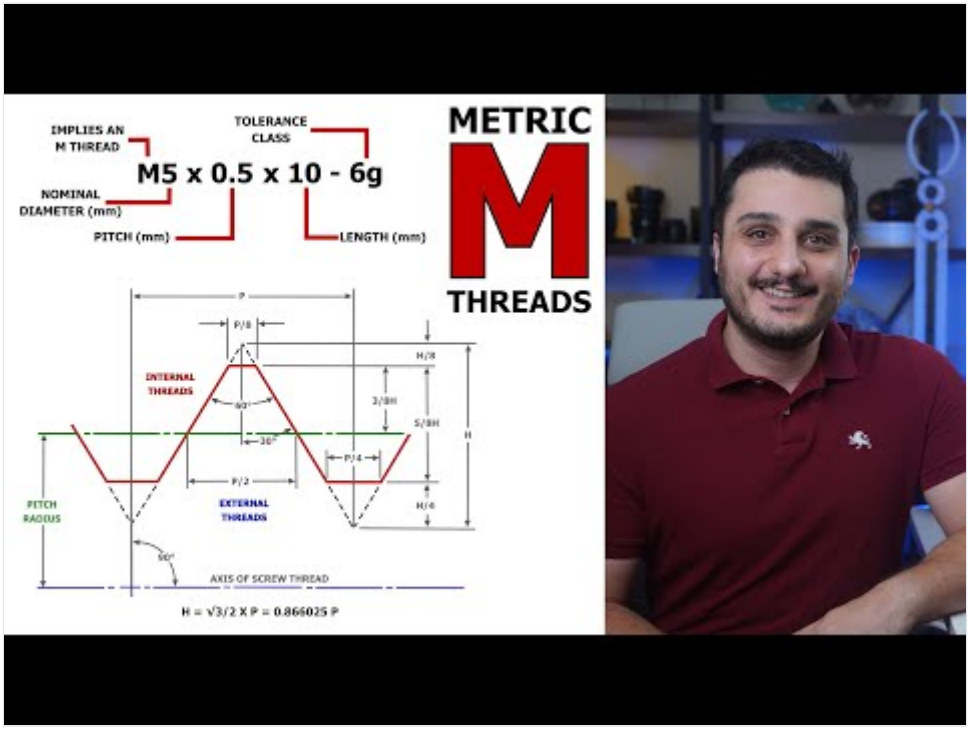
04

Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

Video: Metric Thread Dimensions



► Watch video: https://www.youtube.com/watch?v=FqFpuLeLkeM

Third-party video, selected automatically for this topic. It is not produced by Engineering Hardware and is not a specification source — use the tables on this page for dimensional data.

Frequently Asked Questions

What does the Metric Thread Dimensions reference table cover?

Metric Thread Dimensions is an engineering reference table aligned with ISO 724 / ISO 965. Use the values alongside our fastener catalog when selecting and specifying parts.

How do I request a quotation?

Use the parametric drawing on this page to set the exact configuration (size, material, finish) and click "Request this configuration" — a specialist from Engineering Hardware will respond within one business day.

More Engineering Reference

← PreviousClearance Hole SizesISO 273Next →Bolt Property ClassesISO 898-1