Tapping Drill & Clearance Hole Diameter

Sample document with complete example values. It shows the report the purchased export produces for YOUR input - it is not itself a report for any part.

Project: Sample project Part/Position: no real part Prepared by: Sample, not released

M8 - tapping drill 6.8 mm

Selected Thread Size

Thread	M8
Nominal diameter D	8 mm
Pitch P	1.25 mm (coarse thread)
Tapping drill	6.8 mm
Theoretical d_core = D − P	6.75 mm
Minimum engagement depth steel (guide value approx. 1·D)	8 mm
Minimum engagement depth cast iron/aluminum (guide value approx. 1.5·D)	12 mm

Clearance Hole per DIN EN ISO 273

Fine series	8.4 mm
Medium series	9 mm
Coarse series	10 mm

Shop Table Coarse Thread (selected row marked with <)

Thread	P [mm]	Tapping drill [mm]	Clear. fine [mm]	Clear. medium [mm]	Clear. coarse [mm]
M1.6	0.35	1.25	1.7	1.8	2
M2	0.4	1.6	2.2	2.4	2.6
M2.5	0.45	2.05	2.7	2.9	3.1
M3	0.5	2.5	3.2	3.4	3.6
M4	0.7	3.3	4.3	4.5	4.8
M5	0.8	4.2	5.3	5.5	5.8
M6	1	5	6.4	6.6	7
M8 <	1.25	6.8	8.4	9	10
M10	1.5	8.5	10.5	11	12
M12	1.75	10.2	13	13.5	14.5
M14	2	12	15	15.5	16.5
M16	2	14	17	17.5	18.5
M18	2.5	15.5	19	20	21
M20	2.5	17.5	21	22	24
M22	2.5	19.5	23	24	26
M24	3	21	25	26	28
M27	3	24	28	30	32
M30	3.5	26.5	31	33	35
M33	3.5	29.5	34	36	38
M36	4	32	37	39	42
M39	4	35	40	42	45
M42	4.5	37.5	43	45	48
M45	4.5	40.5	46	48	52
M48	5	43	50	52	56
M52	5	47	54	56	62
M56	5.5	50.5	58	62	66
M60	5.5	54.5	62	66	70
M64	6	58	66	70	74

Calculation basis

Tapping drill (core hole) diameter for metric ISO coarse threads (DIN 13 / ISO 262) for approx. 100% thread engagement; the approximation formula is d_core = D − P, and the table values are rounded to common drill bit sizes. A smaller tapping drill increases the thread engagement and the breaking torque of the tap, a larger one decreases both. Clearance holes fine/medium/coarse per DIN EN ISO 273 depend only on the nominal diameter, not on the pitch. The engagement depths are guide values and do not replace a load-bearing verification of the bolted joint.

About this sample

All values on these pages come from a freely chosen example calculation and belong to no real part. The purchased export contains the same sections with your input, your header data (project, part, prepared by) and as searchable text. Pricing and scope: maschinenbaurechner.de/en/pricing