

Hole Sizes for Cold Form Tapping Metric System



IMPORTANT NOTES ON SPIRALOCK PRETAP HOLE SIZES

Determining Drill Size

Finding the correct drill size for a Spiralock tap may be a “Cut and Try” process.

- Not all drills are alike and therefore the pretap holes produced by different drills may be vastly different. What matters is the actual pretap hole size, how consistently this hole size is maintained, and finally, the after-tap thread percentage or minor diameter. To get good results, you must know the actual hole size and not just the drill size!
- Thin wall parts may expand during tapping and produce oversize after-tap minor diameters.

After tapping, thread minor diameter should check within Spiralock recommended minor diameter sizes for cut threads.

Suggested Procedure for Using Spiralock Tap

1. Test drill a part and measure the pretap hole size.
2. Test tap the part. Check pitch diameter with GO and NOT-GO gages. Check the thread percentage or minor diameter against the customer requirement.
3. Establish a maximum condition for the pretap hole size and monitor this frequently during the production tap run.

Metric Thread Size	Pre-tap Hole Diameter		Metric Thread Size	Pre-tap Hole Diameter	
	Cold-Form Drill Dia. Min. (mm)	Cold-Form Drill Dia. Max. (mm)		Cold-Form Drill Dia. Min. (mm)	Cold-Form Drill Dia. Max. (mm)
M1.6 x 0.35	1.483	1.506	M14.0 x 1.50	13.363	13.515
M2.0 x 0.40	1.867	1.892	M14.0 x 2.00	13.160	13.350
M2.5 x 0.45	2.352	2.380	M16.0 x 1.50	15.367	15.519
M3.0 x 0.50	2.835	2.865	M16.0 x 2.00	15.151	15.354
M3.5 x 0.60	3.302	3.335	M18.0 x 1.50	17.369	17.508
M4.0 x 0.70	3.769	3.805	M18.0 x 2.50	16.937	17.191
M4.5 x 0.75	4.257	4.308	M20.0 x 1.50	19.373	19.512
M5.0 x 0.80	4.658	4.735	M20.0 x 2.50	18.857	18.908
M6.0 x 1.00	5.578	5.679	M22.0 x 1.50	21.364	21.516
M7.0 x 1.00	6.574	6.675	M22.0 x 2.50	20.945	21.186
M8.0 x 1.00	7.582	7.671	M24.0 x 3.00	22.731	23.023
M8.0 x 1.25	7.468	7.595	M27.0 x 3.00	25.730	26.022
M9.0 x 1.25	8.478	8.590	M28.0 x 1.50	27.374	27.513
M10.0 x 1.25	9.472	9.599	M30.0 x 2.00	29.162	29.352
M10.0 x 1.50	9.370	9.510	M30.0 x 3.50	28.527	28.870
M11.0 x 1.50	10.363	10.516	M33.0 x 2.00	32.159	32.349
M12.0 x 1.25	11.474	11.588	M33.0 x 3.50	31.524	31.867
M12.0 x 1.75	11.257	11.435	M36.0 x 4.00	34.308	34.702
M14.0 x 1.25	13.477	13.592	M39.0 x 4.00	37.341	37.699

Hole Sizes for Cold Form Tapping Fractional System



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Fractional Thread Size	Pre-tap Hole Diameter		Fractional Thread Size	Pre-tap Hole Diameter	
	Cold-Form Drill Dia. Min.	Cold Form Drill Dia Max.		Cold-Form Drill Dia. Min.	Cold Form Drill Dia Max.
0 – 80	0.0559	0.0567	7/16 - 14	0.4073	0.4143
1 – 72	0.0684	0.0693	7/16 – 20	0.4164	0.4213
2 – 56	0.0801	0.0812	1/2 – 13	0.4675	0.4750
2 – 64	0.0808	0.0818	1/2 – 20	0.4789	0.4838
3 – 48	0.0921	0.0933	9/16 – 12	0.5273	0.5354
3 – 56	0.0931	0.0942	9/16 – 18	0.5390	0.5445
4 – 40	0.1038	0.1050	5/8 – 11	0.5866	0.5955
4 – 48	0.1051	0.1063	5/8 – 18	0.6015	0.6070
5 – 40	0.1168	0.1180	3/4 – 10	0.7078	0.7175
5 – 44	0.1175	0.1187	3/4 – 16	0.7236	0.7297
6 – 32	0.1248	0.1279	7/8 – 9	0.8281	0.8389
6 – 40	0.1298	0.1311	7/8 – 14	0.8448	0.8518
8 – 32	0.1508	0.1539	1” – 8	0.9472	0.9594
8 – 36	0.1548	0.1562	1” – 12	0.9648	0.9729
10 – 24	0.1724	0.1765	1” – 14	0.9698	0.9768
10 – 32	0.1768	0.1799	1 1/8-7	1.0647	1.0786
12 – 24	0.1984	0.2025	1 1/8-12	1.0898	1.0979
12 – 28	0.2009	0.2044	1 1/4-7	1.1897	1.2036
1/4 - 20	0.2289	0.2338	1 1/4-12	1.2148	1.2229
1/4 - 28	0.2349	0.2384	1 3/8-6	1.3046	1.3209
5/16 – 18	0.2890	0.2945	1 3/8-12	1.3398	1.3479
5/16 – 24	0.2949	0.2990	1 1/2-6	1.4296	1.4459
3/8 – 16	0.3486	0.3547	1 1/2-12	1.4648	1.4729
3/8 – 24	0.3574	0.3615			