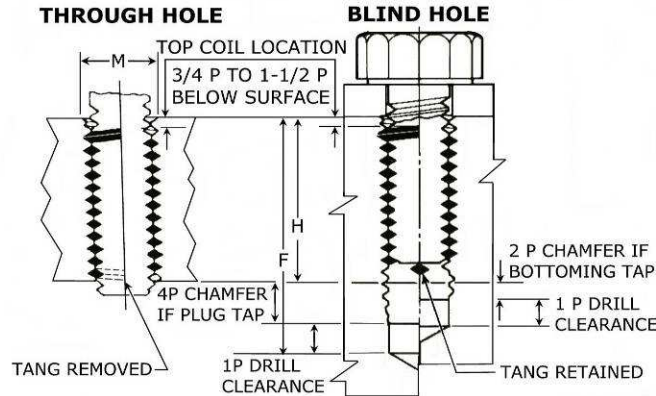


# Tanged and DN™ Wire Thread Insert Hole Drilling Specifications



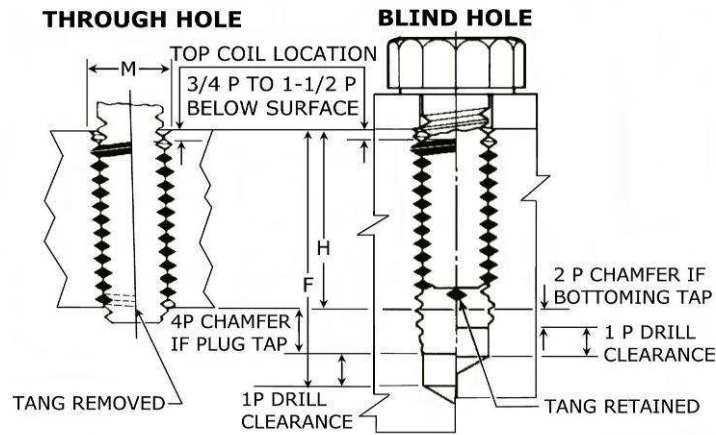
**Table I**

Nominal Thread Size	Minor Diam. (after tapping)			Suggested Drill Size*		F Dimension - Min. Drilling Depth for Plug** & Bottom Taps					
	Min. All Classes	Max Class 3B	Max Class 2B	Aluminum	Steel, Mg, Plastic	1 D		1 ½ D		2 D	
						Plug	Bottom	Plug	Bottom	Plug	Bottom
<b>UNIFIED</b>											
#2-56	.0899	.0961	.0961	3/32 (.0938)	#41 (.0960)	0.236	0.157	0.279	0.200	0.322	0.243
#4-40	.1175	.1252	.1252	#31 (.1200)	#31 (.1200)	0.318	0.212	0.374	0.268	0.430	0.324
#6-32	.1448	.1527	.1527	#26 (.1470)	#25 (.1495)	0.394	0.263	0.464	0.332	0.532	0.401
#8-32	.1708	.1781	.1781	#17 (.1730)	#16 (.1770)	0.434	0.289	0.516	0.371	0.598	0.453
#10-32	.1968	.2041	.2041	#7 (.2010)	13/64 (.2031)	0.472	0.315	0.568	0.41	0.662	0.505
1/4-20	.2608	.2704	.2723	H (.2660)	H (.2660)	0.675	0.450	0.800	0.575	0.925	0.700
1/4-28	.2577	.2646	.2661	G (.2610)	6.7mm (.2638)	0.589	0.393	0.714	0.518	0.839	0.643
5/16-18	.3245	.3342	.3372	Q (.3320)	Q (.3320)	0.801	0.534	0.957	0.690	1.113	0.846
5/16-24	.3215	.3288	.3312	21/64 (.3281)	21/64 (.3281)	0.718	0.479	0.874	0.635	1.030	0.791
3/8-16	.3885	.3987	.4026	X (.3970)	X (.3970)	0.750	0.625	0.938	0.812	1.125	1.000
3/8-24	.3840	.3910	.3937	25/64 (.3906)	25/64 (.3906)	0.625	0.542	0.812	0.729	1.000	0.917
7/16-14	.4530	.4639	.4688	29/64 (.4531)	29/64 (.4531)	0.867	0.742	1.086	0.943	1.305	1.162
7/16-20	.4483	.4561	.4593	29/64 (.4531)	29/64 (.4531)	0.738	0.638	0.957	0.857	1.176	1.076
<b>METRIC</b>	<b>Minimum</b>	<b>Maximum</b>									
M3X0.5	3.108	3.220		3.15	3.20	7.50	5.00	9.00	6.50	10.50	8.00
M4X0.7	4.152	4.292		4.20	4.25	10.20	6.80	12.20	8.80	14.20	10.80
M5X0.8	5.174	5.344		5.20	5.30	12.30	8.20	14.80	10.70	17.30	13.20
M6X1	6.217	6.407		6.25	6.35	15.00	10.00	18.00	13.00	21.00	16.00
M8X1.25	8.271	8.483		8.30	8.40	19.50	13.00	23.50	17.00	27.50	21.00
M10X1.5	10.324	10.56		10.50	10.50	19.00	16.00	24.00	21.00	29.00	26.00
M12X1.75	12.379	12.644		12.50	12.50	22.50	19.00	28.50	25.00	34.50	31.00
M16X2	16.433	16.733		16.50	16.50	28.00	24.00	36.00	32.00	44.00	40.00

\* Standard drill size drills are suggested even though some sizes vary slightly from minor diameter specifications in NASM33537

\*\* For plug taps with a nominal diameter of 5/16" or smaller, (F) minimum gives an allowance for a male center on the tap

# Tanged and DN™ Wire Thread Insert Tapped Hole Dimensions



**Table II**

Nominal Thread Size	F Dimension - Min. Drilling Depth for Plug** & Bottom Taps				H Dimension					M Dimension Countersink Dia. (120± 5° included angle)		Pitch Diameter		
	2 ½ D		3 D		Minimum Tapping Depth Diameter (mm)					Min.	Max.	Min.	3B Max.	2B Max.
	Plug	Bottom	Plug	Bottom	1 D	1 ½ D	2 D	2 ½ D	3 D					
<b>UNIFIED</b>														
#2-56	0.365	0.286	0.408	0.329	0.10	0.15	0.19	0.23	0.28	0.09	0.11	0.0976	0.0989	0.0996
#4-40	0.486	0.380	0.542	0.436	0.14	0.19	0.25	0.31	0.36	0.14	0.17	0.1283	0.1299	0.1306
#6-32	0.602	0.470	0.670	0.539	0.17	0.24	0.31	0.38	0.45	0.18	0.21	0.1583	0.1601	0.1611
#8-32	0.680	0.535	0.762	0.617	0.20	0.28	0.36	0.44	0.52	0.20	0.23	0.1843	0.1862	0.1872
#10-32	0.758	0.600	0.852	0.695	0.22	0.32	0.41	0.51	0.60	0.23	0.26	0.2103	0.2123	0.2133
1/4-20	1.050	0.825	1.175	0.950	0.30	0.43	0.55	0.68	0.80	0.31	0.34	0.2825	0.2851	0.2863
1/4-28	0.964	0.768	1.089	0.893	0.29	0.41	0.54	0.66	0.79	0.29	0.32	0.2732	0.2754	0.2765
5/16-18	1.269	1.002	1.425	1.158	0.37	0.53	0.68	0.84	0.99	0.38	0.41	0.3486	0.3515	0.3529
5/16-24	1.186	0.947	1.342	1.103	0.35	0.51	0.67	0.82	0.98	0.36	0.39	0.3395	0.3421	0.3433
3/8-16	1.312	1.188	1.500	1.375	0.44	0.63	0.81	1.00	1.19	0.45	0.48	0.4156	0.4189	0.4203
3/8-24	1.187	1.104	1.375	1.292	0.42	0.60	0.79	0.98	1.17	0.42	0.45	0.4020	0.4047	0.4059
7/16-14	1.524	1.381	1.743	1.600	0.51	0.73	0.95	1.17	1.38	0.52	0.55	0.4839	0.4875	0.4890
7/16-20	1.395	1.295	1.614	1.514	0.49	0.71	0.93	1.14	1.36	0.05	0.53	0.4700	0.4731	0.4744
<b>METRIC</b>														
M3X0.5	12.0	9.5	13.5	11.0	3.5	5.0	6.5	8.0	9.5	3.4	4.0	3.325	3.367	3.384
M4X0.7	16.2	12.8	18.2	14.8	4.7	6.7	8.7	10.7	12.7	4.7	5.3	4.455	4.509	4.529
M5X0.8	19.8	15.7	22.3	18.2	5.8	8.3	10.8	13.3	15.8	5.8	6.4	5.520	5.577	5.597
M6X1	34.0	19.0	27.0	22.0	7.0	10.0	13.0	16.0	19.0	7.1	7.7	6.650	6.719	6.742
M8X1.25	31.5	25.0	35.5	29.0	9.3	13.3	17.3	21.3	25.3	9.5	10.1	8.812	8.886	8.911
M10X1.5	34.0	31.0	39.0	36.0	11.5	16.5	21.5	26.5	31.5	11.8	12.4	10.974	11.061	11.089
M12X1.75	40.5	37.0	46.5	43.0	13.8	19.8	25.8	31.8	37.8	14.2	14.8	13.137	13.236	13.271
M16X2	52.0	48.0	60.0	56.0	18.0	26.0	34.0	42.0	50.0	18.5	19.1	17.299	17.406	17.444

\*\* For plug taps with a nominal diameter of 5/16" or smaller, (F) minimum gives an allowance for a male center on the tap