

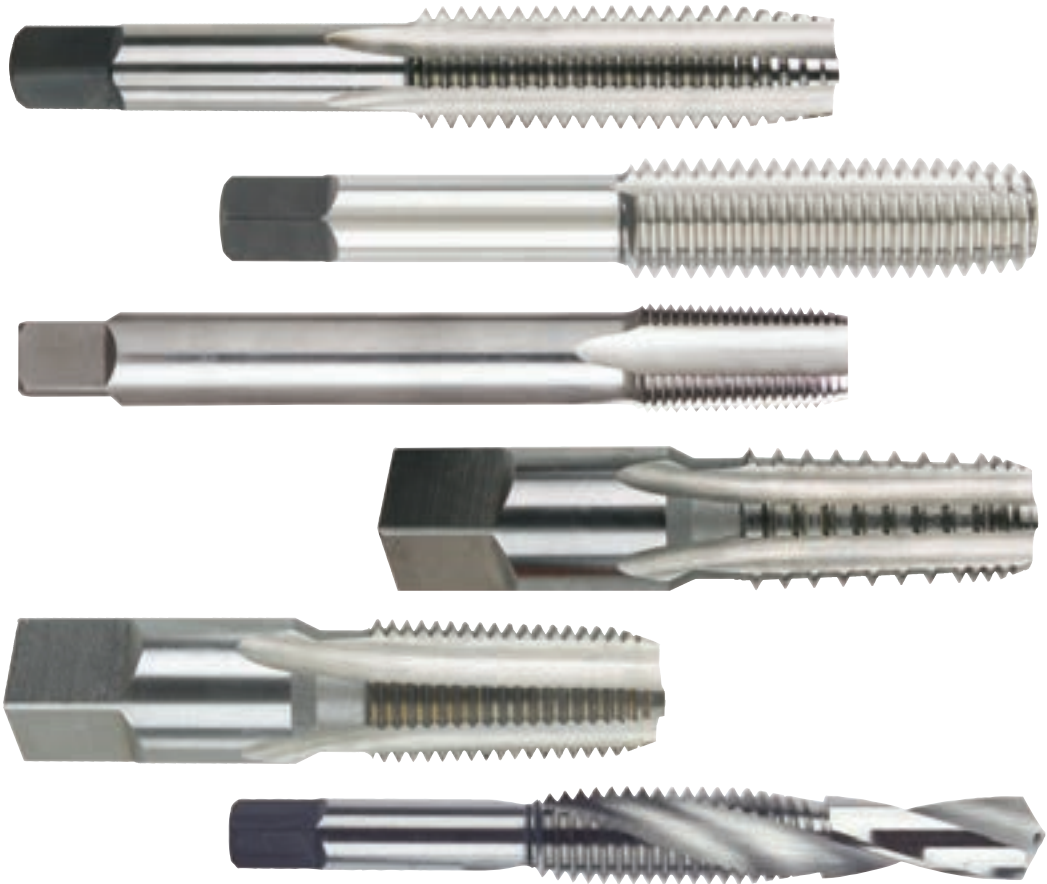


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Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish

Straight Flute hand taps are used for hand tapping and machine tapping in through holes or blind holes in a wide variety of materials.

Available in sets or taper (8-10 thread chamfer), plug (3-5 thread chamfer), or bottoming (1-2 thread chamfer)



List No. 2046 Machine Screw
Fractional
Metric

List No. 2046 Machine Screw

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH				
#2	56	4	H4	7/16	1-3/4	03025	03547	04052
	32	3	H2	1/2	1-13/16	03028	03549	04054
#4	36	3	H2	1/2	1-13/16	03029	03550	04055
	40	3	H3	9/16	1-7/8	03031	03552	04057
#6	32	3	H5	11/16	2	03035	03556	04061
	32	3	H7	11/16	2	03036	03557	04062
	32	3	H11	11/16	2	03037	—	04063
	48	3	H2	11/16	2	03039	03559	04065
#8	24	4	H3	3/4	2-1/8	03040	03560	04066
	32	4	H5	3/4	2-1/8	03042	03562	04068
	32	4	H7	3/4	2-1/8	03043	03563	04069
	32	7	H11	3/4	2-1/8	03044	—	04070
	40	4	H2	3/4	2-1/8	03046	03565	04072
#10	24	4	H3	7/8	2-3/8	03006	03529	04033
	24	4	H7	7/8	2-3/8	03004	03528	04031
	24	4	H11	7/8	2-3/8	03005	—	04032
#10	28	4	H3	7/8	2-3/8	03007	03530	04034
	30	4	H3	7/8	2-3/8	03008	03531	04035
#10	32	4	H4	7/8	2-3/8	03010	03532	04036
	32	4	H5	7/8	2-3/8	03011	03533	04037
	32	4	H7	7/8	2-3/8	03012	03534	04038
	32	4	H11	7/8	2-3/8	03013	—	04039
#10	36	4	H2	7/8	2-3/8	03014	03535	04040
	40	4	H2	7/8	2-3/8	03015	03536	04041
	48	4	H2	7/8	2-3/8	03016	03537	04042
	56	4	H2	7/8	2-3/8	03017	03538	04043
	64	4	H2	7/8	2-3/8	03018	03539	04044
#12	32	4	H3	1/2	2-3/8	03021	03542	04047
	36	4	H2	15/16	2-3/8	03022	03543	04048
#14	20	4	H3	1	2-1/2	03023	03544	04049
	24	4	H3	1	2-1/2	03024	03545	04050



Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 2046 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
5/32	32	4	H3	3/4	2-1/8	03317	03822	04337
3/16	24	4	H3	7/8	2-3/8	03257	03769	04282
	32	4	H3	7/8	2-3/8	03258	03770	04283
7/32	32	4	H3	15/16	2-3/8	03347	03847	04363
1/4	20	4	H7	1	2-1/2	03175	03690	04201
	20	4	H11	1	2-1/2	03176	—	04202
	20	4	H21	1	2-1/2	03177	03691	04203
	20	4	H3	1	2-1/2	03178	03692	04204
1/4	24	4	H3	1	2-1/2	03179	03693	04205
	27	4	H3	1	2-1/2	03180	03694	04206
	28	4	H5	1	2-1/2	03182	03695	04207
	28	4	H7	1	2-1/2	03183	03696	04208
	28	4	H11	1	2-1/2	03184	03697	04209
	28	4	H3	1	2-1/2	03185	03698	04210
	32	4	H3	1	2-1/2	03186	03699	04212
	32	4	H5	1	2-1/2	03187	03701	04214
1/4	36	4	H2	1	2-1/2	03155	03702	04215
	36	4	H3	1	2-1/2	03189	03703	04216
	40	4	H2	1	2-1/2	03190	03704	04217
	40	4	H3	1	2-1/2	03191	03705	04218
	48	4	H2	1	2-1/2	03192	03706	04219
	56	4	H2	1	2-1/2	03193	03707	04220
	80	4	H2	1	2-1/2	03194	03708	04221
9/32	32	4	H3	1-1/8	2-23/32	03372	03871	04387
5/16	18	4	H3	1-1/8	2-23/32	03306	03812	04327
	18	4	H7	1-1/8	2-23/32	03303	03810	04324
	18	4	H11	1-1/8	2-23/32	03304	—	04325
	18	4	H21	1-1/8	2-23/32	03305	03811	04326
	20	4	H3	1-1/8	2-23/32	03307	03813	04328
5/16	24	4	H5	1-1/8	2-23/32	03310	03814	04329
	24	4	H6	1-1/8	2-23/32	03311	03815	04330
	24	4	H11	1-1/8	2-23/32	03309	03816	04331
5/16	27	4	H3	1-1/8	2-23/32	03312	03817	04332
	28	4	H3	1-1/8	2-23/32	03313	03818	04333
	32	4	H3	1-1/8	2-23/32	03314	03819	04334
	32	4	H5	1-1/8	2-23/32	03315	03820	04335
	40	4	H2	1-1/8	2-23/32	03316	03821	04336
11/32	32	4	H3	1-1/4	2-15/16	03205	03718	04231
3/8	16	4	H3	1-1/4	2-15/16	03282	03791	04303
	16	4	H7	1-1/4	2-15/16	03279	03788	04300
	16	4	H11	1-1/4	2-15/16	03280	03789	04301
3/8	16	4	H21	1-1/4	2-15/16	03281	03790	04302
	18	4	H3	1-1/4	2-15/16	03283	03792	04304
	20	4	H3	1-1/4	2-15/16	03284	03793	04305
3/8	24	4	H5	1-1/4	2-15/16	03286	03794	04306
	24	4	H7	1-1/4	2-15/16	03287	03796	04308
	24	4	H8	1-1/4	2-15/16	—	03795	04307
	24	4	H11	1-1/4	2-15/16	03288	—	04309
3/8	27	4	H3	1-1/4	2-15/16	03289	03797	04311
	28	4	H3	1-1/4	2-15/16	03290	03798	04312
3/8	32	4	H3	1-1/4	2-15/16	03291	03799	04313
	32	4	H5	1-1/4	2-15/16	03292	03800	04314
3/8	40	4	H2	1-1/4	2-15/16	03294	03801	04315
	40	4	H3	1-1/4	2-15/16	03293	03802	04316
	48	4	H2	1-1/4	2-15/16	03295	03803	04317

Straight Flute Hand Taps



Ground Thread — High Speed Steel
Bright Finish

List No. 2046 Fractional

(continued)

SIZE	PITCH	NO. OF FLUTES	PITCH		THREAD LENGTH	OAL	TAPER	PLUG	BOTTOM
			DIA. LIMIT	THREAD LENGTH			EDP NO.	EDP NO.	EDP NO.
13/32	32	4	H3	1-7/16	3-5/32	03214	03726	04239	
	14	4	H11	1-7/16	3-5/32	03334	03835	04351	
7/16	16	4	H3	1-7/16	3-5/32	03335	03836	04352	
	18	4	H3	1-7/16	3-5/32	03336	03837	04353	
7/16	20	4	H6	1-7/16	3-5/32	03339	03838	04354	
	20	4	H11	1-7/16	3-5/32	03338	03839	04355	
7/16	24	4	H3	1-7/16	3-5/32	03340	03840	04356	
	24	4	H5	1-7/16	3-5/32	03341	03841	04357	
7/16	27	4	H3	1-7/16	3-5/32	03342	03842	04358	
	28	4	H3	1-7/16	3-5/32	03343	03843	04359	
7/16	28	4	H5	1-7/16	3-5/32	03344	03844	04360	
	32	4	H3	1-7/16	3-5/32	03345	03845	04361	
7/16	40	4	H2	1-7/16	3-5/32	03346	03846	04362	
	32	6	H3	1-21/32	3-3/8	03222	03734	04247	
1/2	12	4	H3	1-21/32	3-3/8	03156	03675	04184	
	13	4	H3	1-21/32	3-3/8	03161	03678	04188	
1/2	13	4	H7	1-21/32	3-3/8	03158	03676	04185	
	13	4	H11	1-21/32	3-3/8	03159	—	04186	
1/2	13	4	H21	1-21/32	3-3/8	03160	03677	04187	
	14	4	H3	1-21/32	3-3/8	03162	03679	04189	
1/2	16	4	H3	1-21/32	3-3/8	03163	03680	04190	
	18	4	H3	1-21/32	3-3/8	03164	03681	04191	
1/2	20	4	H5	1-21/32	3-3/8	—	—	04192	
	20	4	H7	1-21/32	3-3/8	03166	03682	04193	
1/2	20	4	H11	1-21/32	3-3/8	03167	03683	04194	
	24	4	H3	1-21/32	3-3/8	03168	03684	04195	
1/2	27	4	H3	1-21/32	3-3/8	03169	03685	04196	
	28	4	H3	1-21/32	3-3/8	03170	03686	04197	
1/2	28	4	H5	1-21/32	3-3/8	03171	03687	04198	
	32	6	H3	1-21/32	3-3/8	03172	03688	04199	
1/2	40	6	H2	1-21/32	3-3/8	03173	03689	04200	
	13	4	H3	1-21/32	3-19/32	03296	03804	04318	
9/16	16	4	H3	1-21/32	3-19/32	03364	03862	04378	
	18	4	H5	1-21/32	3-19/32	—	03864	04380	
9/16	18	4	H11	1-21/32	3-19/32	03366	03865	04381	
	20	4	H3	1-21/32	3-19/32	03367	03866	04382	
9/16	24	4	H3	1-21/32	3-19/32	03368	03867	04383	
	24	4	H5	1-21/32	3-19/32	03369	03868	04384	
9/16	27	6	H3	1-21/32	3-19/32	03370	03869	04385	
	32	6	H3	1-21/32	3-19/32	03371	03870	04386	
5/8	11	4	H11	1-13/16	3-13/16	03319	03823	04338	
	11	4	H21	1-13/16	3-13/16	03320	03824	04339	
5/8	12	4	H3	1-13/16	3-13/16	03321	03825	04340	
	16	4	H3	1-13/16	3-13/16	03322	03826	04341	
5/8	18	4	H7	1-13/16	3-13/16	03326	03827	04342	
	18	4	H8	1-13/16	3-13/16	—	03828	04343	
5/8	18	4	H11	1-13/16	3-13/16	03324	—	04344	



Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 2046 Fractional

(continued)

SIZE	PITCH	NO. OF FLUTES	PITCH		THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT						
5/8	20	4	H3		1-13/16	3-13/16	03327	03829	04345
	24	6	H3		1-13/16	3-13/16	03328	03830	04346
	24	6	H5		1-13/16	3-13/16	03329	03831	04347
	27	6	H3		1-13/16	3-13/16	03330	03832	04348
	28	6	H3		1-13/16	3-13/16	03331	03833	04349
	32	6	H3		1-13/16	3-13/16	03332	03834	04350
41/64	11	4	H4		1-13/16	4-1/32	03300	03808	04322
11/16	18	4	H3		1-13/16	4-1/32	03197	03712	04225
	20	6	H3		1-13/16	4-1/32	03200	03713	04226
	24	6	H3		1-13/16	4-1/32	03201	03714	04227
	24	6	H5		1-13/16	4-1/32	03202	03715	04228
	28	6	H3		1-13/16	4-1/32	03203	03716	04229
	32	6	H3		1-13/16	4-1/32	03204	03717	04230
3/4	10	4	H11		2	4-1/4	03260	03771	04284
	10	4	H21		2	4-1/4	03261	03772	04285
	11-1/2	6	Hose		2	4-1/4	03262	03773	04286
	12	4	H4		2	4-1/4	03263	03774	04287
3/4	16	4	H7		2	4-1/4	03264	03776	04289
	16	4	H11		2	4-1/4	03266	03778	04291
	16	4	H8		2	4-1/4	03268	03777	04290
	18	4	H3		2	4-1/4	03270	03780	04292
3/4	20	6	H3		2	4-1/4	03271	03782	04294
	20	6	H5		2	4-1/4	03272	03783	04295
	24	6	H3		2	4-1/4	03274	03784	04296
	27	6	H3		2	4-1/4	03275	03785	04297
3/4	32	6	H3		2	4-1/4	03276	03786	04298
	40	6	H3		2	4-1/4	03277	03787	04299
49/64	10	4	H4		2	4-15/32	03301	03809	04323
13/16	10	4	H4		2	4-15/32	03207	03719	04232
	12	4	H4		2	4-15/32	03208	03720	04233
	16	4	H3		2	4-15/32	03209	03721	04234
	18	4	H3		2	4-15/32	03210	03722	04235
	20	6	H3		2	4-15/32	03211	03723	04236
	20	6	H5		2	4-15/32	03212	03724	04237
	24	6	H3		2	4-15/32	03213	03725	04238
7/8	9	4	H11		2-7/32	4-11/16	03362	03860	04376
	10	4	H4		2-7/32	4-11/16	03348	03848	04364
	12	4	H4		2-7/32	4-11/16	03349	03849	04365
7/8	14	4	H5		2-7/32	4-11/16	03353	03850	04366
	14	4	H6		2-7/32	4-11/16	03352	03851	04367
	14	4	H11		2-7/32	4-11/16	03351	03852	04368
	16	4	H3		2-7/32	4-11/16	03354	03853	04369
	18	4	H3		2-7/32	4-11/16	03355	03854	04370
	20	6	H3		2-7/32	4-11/16	03356	03855	04371
	20	6	H5		2-7/32	4-11/16	03357	03856	04372
7/8	24	6	H3		2-7/32	4-11/16	03358	03857	04373
	27	6	H3		2-7/32	4-11/16	03359	03858	04374
	32	6	H3		2-7/32	4-11/16	03360	03859	04375
15/16	12	4	H4		2-7/32	4-29/32	03215	03727	04240
	14	4	H4		2-7/32	4-29/32	03216	03728	04241

Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 2046 Fractional

(continued)

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH				
15/16	16	6	H3	2-7/32	4-29/32	03217	03729	04242
	18	6	H3	2-7/32	4-29/32	03218	03730	04243
	20	6	H3	2-7/32	4-29/32	03219	03731	04244
	20	6	H5	2-7/32	4-29/32	03220	03732	04245
	32	6	H3	2-7/32	4-29/32	03221	03733	04246
1	8	4	H6	2-1/2	5-1/8	—	03672	04181
	8	4	H11	2-1/2	5-1/8	03152	03673	04182
	8	4	H21	2-1/2	5-1/8	03154	03674	04183
1	10	4	H4	2-1/2	5-1/8	03135	03658	04167
	12	4	H6	2-1/2	5-1/8	03137	03659	04168
	12	4	H11	2-1/2	5-1/8	03138	03660	04169
1	14	4	H6	2-1/2	5-1/8	03140	03661	04170
	14	4	H11	2-1/2	5-1/8	03141	03662	04171
	16	6	H3	2-1/2	5-1/8	03142	03664	04173
	18	6	H3	2-1/2	5-1/8	03144	03665	04174
1	20	6	H3	2-1/2	5-1/8	03145	03667	04176
	20	6	H5	2-1/2	5-1/8	03146	03668	04177
	24	6	H3	2-1/2	5-1/8	03148	03669	04178
	27	6	H6	2-1/2	5-1/8	03149	03670	04179
	32	6	H3	2-1/2	5-1/8	03150	03671	04180
1-1/16	12	4	H4	2-1/2	5-1/8	03049	03566	04073
	12	4	H5	2-1/2	5-1/8	03047	03567	04074
	12	4	H7	2-1/2	5-1/8	03048	03568	04075
1-1/16	14	6	H5	1-1/2	4	03050	03569	04077
	16	6	H4	1-1/2	4	03051	03570	04078
	16	6	H6	1-1/2	4	03052	03571	04079
1-1/16	18	6	H4	1-1/2	4	03053	03572	04080
	18	6	H6	1-1/2	4	03054	03573	04081
	20	6	H4	1-1/2	4	03055	03574	04082
	24	6	H4	1-1/2	4	03056	03575	04083
1-1/8	8	4	H5	2-9/16	5-7/16	03091	03613	04121
	10	4	H5	2-9/16	5-7/16	03079	03600	04108
	12	4	H6	2-9/16	5-7/16	03081	03602	04110
	12	4	H11	2-9/16	5-7/16	03082	03603	04111
1-1/8	14	6	H5	1-1/2	4	03083	03604	04112
	16	6	H4	1-1/2	4	03084	03605	04113
1-1/8	18	6	H4	1-1/2	4	03085	03606	04114
	18	6	H6	1-1/2	4	03086	03607	04115
	20	6	H4	1-1/2	4	03087	03608	04116
	24	6	H4	1-1/2	4	03088	03609	04117
1-1/8	28	6	H4	1-1/2	4	03206	03610	04118
	32	8	H4	1-1/2	4	03089	03611	04119
1-3/16	12	6	H5	2-9/16	5-7/16	03092	03614	04123
	14	6	H5	1-1/2	4	03093	03615	04124
	16	6	H4	1-1/2	4	03094	03616	04125
	16	6	H6	1-1/2	4	03095	03617	04126
1-3/16	18	6	H4	1-1/2	4	03096	03618	04127
	18	6	H6	1-1/2	4	03097	03619	04128
	20	6	H4	1-1/2	4	03098	03620	04129



Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 2046 Fractional

(continued)

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
1-1/4	10	4	H5	2-9/16	5-3/4	03066	03586	04094
	12	6	H6	2-9/16	5-3/4	03068	03588	04096
	14	6	H5	1-1/2	4	03069	03589	04097
1-1/4	16	6	H4	1-1/2	4	03070	03590	04098
	18	6	H4	1-1/2	4	03071	03591	04099
1-1/4	18	6	H6	1-1/2	4	03072	03592	04100
	20	6	H4	1-1/2	4	03073	03593	04101
	24	8	H4	1-1/2	4	03074	03594	04102
1-1/4	32	10	H4	1-1/2	4	03075	03595	04103
	7	4	H8	2-9/16	5-3/4	03076	03597	04105
	7	4	H11	2-9/16	5-3/4	03077	03598	04106
	8	4	H5	2-9/16	5-3/4	03078	03599	04107
1-5/16	12	6	H5	2-9/16	5-3/4	03114	03636	04145
	12	6	H8	2-9/16	5-3/4	03115	03637	04146
	16	6	H4	1-1/2	4	03116	03638	04147
	16	6	H6	1-1/2	4	03117	03639	04148
	18	6	H4	1-1/2	4	03118	03640	04149
	18	6	H6	1-1/2	4	03119	03641	04150
	20	6	H4	1-1/2	4	03120	03642	04151
1-3/8	8	4	H5	3	6-1/16	03113	03635	04144
	16	6	H4	1-1/2	4	03108	03630	04139
	18	6	H4	1-1/2	4	03109	03631	04140
	18	6	H6	1-1/2	4	03110	03632	04141
	20	6	H4	1-1/2	4	03111	03633	04142
1-7/16	18	6	H4	1-1/2	4	03126	03649	04158
	18	6	H6	1-1/2	4	03127	03650	04159
1-1/2	8	6	H5	3	6-3/8	03065	03585	04093
	10	6	H5	3	6-3/8	03057	03576	04084
	12	6	H6	3	6-3/8	03059	03578	04086
	16	6	H4	1-1/2	4	03060	03579	04087
1-1/2	18	6	H4	1-1/2	4	03061	03580	04088
	18	6	H6	1-1/2	4	03062	03581	04089
	20	6	H4	1-1/2	4	03063	03582	04090
	24	8	H4	1-1/2	4	03064	03583	04091
1-5/8	5-1/2	6	H7	3-7/32	6-11/16	03124	03647	04156
	8	6	H6	3-7/32	6-11/16	03125	03648	04157
1-5/8	12	6	H4	2	5	—	03643	04152
	12	6	H6	2	5	03121	03644	04153
	16	6	H5	2	5	03122	03645	04154
	18	6	H5	2	5	03123	03646	04155
1-9/16	16	6	H5	2	5	03133	03656	04165
	18	6	H5	2	5	03134	03657	04166
1-3/4	5	6	H7	3-7/32	7	03105	03627	04136
	8	6	H6	3-7/32	7	03106	03628	04137
	10	6	H6	3-7/32	7	03099	03621	04130
	12	6	H6	2	5	03100	03622	04131
	12	6	H8	2	5	03101	03623	04132
1-3/4	16	6	H5	2	5	03102	03624	04133
	16	6	H7	2	5	03103	03625	04134
	18	6	H5	2	5	03104	03626	04135
1-7/8	5	6	H7	3-9/16	7-5/16	03131	03654	04163
	8	6	H6	3-9/16	7-5/16	03132	03655	04164

Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 2046 Fractional

(continued)

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH				
1-7/8	12	6	H6	2	5	03128	03651	04160
	12	6	H8	2	5	03129	03652	04161
	16	6	H5	2	5	03130	03653	04162
2	4-1/2	6	H7	3-9/16	7-5/8	03242	03754	04267
	8	6	H6	3-9/16	7-5/8	03243	03755	04268
	12	6	H6	2	5	03238	03750	04263
	12	6	H8	2	5	03239	03751	04264
	16	6	H5	2	5	03240	03752	04265
	20	8	H5	2	5	03241	03753	04266
2-1/8	8	6	H6	3-9/16	8	03233	03745	04258
	12	6	H6	2	5-1/4	03231	03743	04256
	16	6	H5	2	5-1/4	03232	03744	04257
2-1/4	4-1/2	6	H7	3-9/16	8-1/4	03229	03741	04254
	8	6	H6	3-9/16	8-1/4	03230	03742	04255
	12	6	H6	2	5-1/4	03227	03739	04252
	16	6	H5	2	5-1/4	03228	03740	04253
2-3/8	8	6	H6	4	8-1/2	03237	03749	04262
	12	6	H6	2	5-1/4	03235	03747	04260
	16	6	H5	2	5-1/4	03236	03748	04261
2-1/2	4	6	H7	4	8-3/4	03225	03737	04250
	8	6	H6	4	8-3/4	03226	03738	04251
	12	6	H6	2	5-1/4	03223	03735	04248
	16	6	H5	2	5-1/4	03224	03736	04249
2-3/4	12	6	H7	2	5-1/2	03234	03746	04259
3	4	6	H9	4-9/16	9-3/4	03255	03767	04280
	8	6	H8	4-9/16	9-3/4	03256	03768	04281
	12	8	H7	2	5-1/2	03253	03765	04278
	16	8	H7	2	5-1/2	03254	03766	04279
3-1/8	12	8	H7	2	5-3/4	03249	03761	04274
3-1/4	12	8	H7	2	5-3/4	03247	03759	04272
	8	6	H8	4-9/16	10	03248	03760	04273
3-1/2	4	6	H9	4-15/16	10-1/4	03245	03757	04270
	8	6	H8	4-15/16	10-1/4	03246	03758	04271
	12	8	H7	2	5-3/4	03244	03756	04269
3-3/4	4	10	H9	5-5/16	10-1/2	03251	03763	04276
	8	10	H8	5-5/16	10-1/2	03252	03764	04277
	12	10	H7	2	6	03250	03762	04275
4	4	10	H9	5-5/16	10-3/4	03298	03806	04320
	8	10	H8	5-5/16	10-3/4	03299	03807	04321
	12	10	H7	2	6	03297	03805	04319



Metric Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 7500 Metric

SIZE	PITCH	NO. OF FLUTES	PITCH		THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH					
M1.6	0.35	2	D3	5/16	1-5/8	03373	03872	—	
M1.8	0.35	2	D3	3/8	1-11/16	03374	03873	04388	
M2	0.40	3	D3	7/16	1-3/4	03423	03921	04436	
M2.2	0.45	3	D3	7/16	1-3/4	03424	03922	04437	
M2.5	0.45	3	D3	1/2	1-13/16	03426	03924	04438	
	0.45	3	D11	1/2	1-13/16	03425	03923	04439	
M2.6	0.45	3	D3	1/2	1-13/16	03427	03925	04440	
M3	0.50	3	D1	5/8	1-15/16	03460	03961	04474	
	0.60	3	D1	11/16	2	03462	03962	04476	
	0.60	3	D4	11/16	2	03463	03963	04475	
M3.5	0.60	3	D11	11/16	2	03464	03964	04477	
	0.70	4	D2	3/4	2-1/8	03487	03989	04502	
	0.70	4	D4	3/4	2-1/8	03488	03988	04501	
	0.70	4	D11	3/4	2-1/8	03490	03991	04504	
M4	0.75	4	D4	3/4	2-1/8	03491	03992	04505	
	0.75	4	D2	1/2	2-3/8	03492	03994	04507	
	0.75	4	D4	1/2	2-3/8	03493	03993	04506	
	0.75	4	D11	1/2	2-3/8	03495	03996	04509	
M4.5	0.50	4	D3	7/8	2-3/8	03498	04000	04513	
	0.80	4	D2	7/8	2-3/8	03499	04002	04515	
	0.80	4	D4	7/8	2-3/8	03500	04001	04514	
	0.80	4	D11	7/8	2-3/8	03502	04004	04517	
	0.90	4	D3	7/8	2-3/8	03503	04005	04518	
M5	0.90	4	D3	15/16	2-3/8	03504	04006	04519	
M5.5	0.50	4	D3	1	2-1/2	03505	04007	04520	
	0.75	4	D3	1	2-1/2	03506	04008	04522	
	1.00	4	D3	1	2-1/2	03507	04010	04524	
	1.00	4	D5	1	2-1/2	03508	04009	04523	
	1.00	4	D11	1	2-1/2	03510	04012	04526	
M6	1.00	4	D5	1-1/8	2-23/32	03511	04013	04527	
	1.00	4	D11	1-1/8	2-23/32	03513	04015	04529	
M7	0.50	4	D4	1-1/8	2-23/32	03514	04016	04530	
	0.75	4	D5	1-1/8	2-23/32	03515	04017	04531	
	1.00	4	D3	1-1/8	2-23/32	03516	04019	04533	
	1.00	4	D5	1-1/8	2-23/32	03517	04018	04532	
	1.00	4	D11	1-1/8	2-23/32	03519	04021	04535	
M8	1.25	4	D3	1-1/8	2-23/32	03520	04023	04537	
	1.25	4	D5	1-1/8	2-23/32	03521	04022	04536	
	1.25	4	D11	1-1/8	2-23/32	03523	04025	04539	
M8	1.00	4	D5	1-1/4	2-15/16	03524	04027	04540	
	1.25	4	D5	1-1/4	2-15/16	03525	04028	04541	
M9	1.00	4	D3	1-1/4	2-15/16	03375	03874	04389	
	1.00	4	D5	1-1/4	2-15/16	03376	03875	04390	
	1.25	4	D3	1-1/4	2-15/16	03378	03877	04392	
	1.25	4	D5	1-1/4	2-15/16	03379	03878	04393	

Metric Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 7500 Metric

(continued)

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH				
M10	1.25	4	D11	1-1/4	2-15/16	03385	03880	04395
	1.50	4	D3	1-1/4	2-15/16	03381	03882	04397
	1.50	4	D6	1-1/4	2-15/16	03382	03881	04396
	1.50	4	D11	1-1/4	2-15/16	03384	03884	04399
M11	1.00	4	D5	1-7/16	3-5/32	03386	03885	04400
	1.50	4	D6	1-7/16	3-5/32	03387	03886	04401
M12	1.00	4	D5	1-21/32	3-3/8	03388	03887	04402
	1.25	4	D11	1-21/32	3-3/8	03389	03891	04406
	1.25	4	D3	1-21/32	3-3/8	03390	03889	04404
	1.25	4	D5	1-21/32	3-3/8	03391	03888	04403
M12	1.50	4	D6	1-21/32	3-3/8	03393	03892	04407
	1.75	4	D11	1-21/32	3-3/8	03394	03896	04411
	1.75	4	D3	1-21/32	3-3/8	03395	03894	04409
	1.75	4	D6	1-21/32	3-3/8	03396	03893	04408
M14	1.00	4	D5	1-21/32	3-19/32	03398	03897	04412
	1.25	4	D4	1-21/32	3-19/32	03399	03898	04413
	1.50	4	D3	1-21/32	3-19/32	03400	03899	04415
	1.50	4	D6	1-21/32	3-19/32	03401	03900	04414
	2.00	4	D3	1-21/32	3-19/32	03403	03902	04418
M15	2.00	4	D7	1-21/32	3-19/32	03404	03903	04417
	1.00	4	D5	1-13/16	3-13/16	03406	03905	04420
M16	1.00	4	D5	1-13/16	3-13/16	03407	03906	04421
	1.50	4	D3	1-13/16	3-13/16	03408	03907	04423
	1.50	4	D6	1-13/16	3-13/16	03409	03908	04422
M16	2.00	4	D4	1-13/16	3-13/16	03411	03911	04426
	2.00	4	D7	1-13/16	3-13/16	03412	03910	04425
	2.00	4	D11	1-13/16	3-13/16	03414	03913	04428
M18	1.00	4	D5	1-13/16	4-1/32	03416	03914	04429
	1.50	4	D3	1-13/16	4-1/32	03417	03917	04432
	1.50	4	D4	1-13/16	4-1/32	03418	03916	04431
	1.50	4	D6	1-13/16	4-1/32	03419	03915	04430
	2.50	4	D7	1-13/16	4-1/32	03421	03919	04434
M20	1.00	4	D6	2	4-15/32	03428	03926	04441
	1.50	4	D3	2	4-15/32	03429	03928	04443
	1.50	4	D6	2	4-15/32	03430	03927	04442
	1.50	4	D11	2	4-15/32	03432	03930	04445
M20	2.50	4	D4	2	4-15/32	03433	03932	04447
	2.50	4	D7	2	4-15/32	03434	03931	04446
	2.50	4	D11	2	4-15/32	03436	03934	04449
M22	1.50	4	D3	2-7/32	4-11/16	03437	03937	04451
	1.50	4	D6	2-7/32	4-11/16	03438	03936	04450
	1.50	4	D11	2-7/32	4-11/16	03440	03939	04453
	2.50	4	D4	2-7/32	4-11/16	03441	03941	04455
	2.50	4	D7	2-7/32	4-11/16	03442	03940	04454



Metric Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 7500 Metric

(continued)

SIZE	PITCH	NO. OF FLUTES	DIA. LIMIT	THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
M24	1.50	4	D6	2-7/32	4-29/32	03444	03943	04457
	2.00	4	D4	2-7/32	4-29/32	03445	03945	04459
	2.00	4	D7	2-7/32	4-29/32	03446	03944	04458
	3.00	4	D4	2-7/32	4-29/32	03448	03948	04462
	3.00	4	D8	2-7/32	4-29/32	03449	03947	04461
	3.00	4	D11	2-7/32	4-29/32	03451	03950	04464
M25	1.50	4	D6	2-1/2	5-1/8	03452	03952	04465
M26	1.50	6	D6	1-1/2	4	03453	03953	04466
M27	1.50	6	D6	1-1/2	4	03454	03954	04467
	2.00	4	D5	2-1/2	5-1/8	03455	03956	04469
	2.00	4	D7	2-1/2	5-1/8	03456	03955	04468
M27	3.00	4	D5	2-1/2	5-1/8	03457	03958	04471
	3.00	4	D8	2-1/2	5-1/8	03458	03957	04470
M30	1.50	6	D6	1-1/2	4	03465	03965	04478
	2.00	4	D5	2-9/16	5-7/16	03466	03967	04480
	2.00	4	D7	2-9/16	5-7/16	03467	03966	04479
	3.50	4	D5	2-9/16	5-7/16	03468	03969	04482
	3.50	4	D9	2-9/16	5-7/16	03469	03968	04481
M32	1.50	6	D6	1-1/2	4	—	03971	04484
	2.00	6	D7	2-9/16	5-3/4	03471	03972	04485
M33	2.00	4	D5	2-9/16	5-3/4	03472	03974	04487
	2.00	4	D7	2-9/16	5-3/4	03473	03973	04486
	3.50	4	D5	2-9/16	5-3/4	03474	03976	04489
	3.50	4	D9	2-9/16	5-3/4	03475	03975	04488
M35	1.50	6	D6	1-1/2	4	03476	03977	04490
M36	1.50	6	D6	1-1/2	4	03477	03978	04491
	2.00	6	D7	3	6-1/16	03478	03979	04492
	3.00	4	D5	3	6-1/16	03479	03981	04494
	3.00	4	D8	3	6-1/16	03480	03980	04493
	4.00	4	D5	3	6-1/16	03481	03983	04496
	4.00	4	D9	3	6-1/16	03482	03982	04495
M39	3.00	6	D6	3-7/32	6-11/16	03483	03985	04498
	3.00	6	D8	3-7/32	6-11/16	03484	03984	04497
	4.00	6	D6	3-7/32	6-11/16	03485	03987	04500
	4.00	6	D9	3-7/32	6-11/16	03486	03986	04499
M40	1.50	6	D6	2	5	03496	03997	04510
M42	1.50	6	D6	2	5	—	03998	04511
	4.50	6	D10	3-7/32	7	03497	03999	04512

Titanium Nitride (TiN) Coated Straight Flute Hand Taps

High Speed Steel



List No. 7500 Metric

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
M6	0.50	4	D3	1	2-1/2	—	04521
M8	1.25	4	D5	1-1/8	2-23/32	04026	—
M20	2.50	4	D7	2	4-15/32	03935	—
M24	3.00	4	D8	2-7/32	4-29/32	03951	—

Titanium Nitride (TiN) Coated Straight Flute Hand Taps

High Speed Steel



List No. 2046 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
1/4	28	4	H5	1	2-1/2	—	04211
3/8	24	4	H7	1-1/4	2-15/16	—	04310
3/4	16	4	H8	2	4-1/4	03779	—
1-1/16	12	4	H4	2-1/2	5-1/8	—	04076
1-1/8	8	4	H5	2-9/16	5-7/16	—	04122

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Left Hand Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish

Left Hand taps are left hand cutting for producing left hand threads in a wide variety of materials.



List No. 2020 Machine Screw
Fractional
Metric

List No. 2020 Machine Screw

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
#0	80	2	H1	5/16	1-5/8	03001	03526	04029
#2	56	2	H2	7/16	1-3/4	03026	03546	04051
#3	48	2	H2	1/2	1-13/16	03027	03548	04053
#4	40	3	H2	9/16	1-7/8	03030	03551	04056
	48	3	H2	9/16	1-7/8	03032	03553	04058
#5	40	3	H2	5/8	1-15/16	03033	03554	04059
#6	32	3	H3	11/16	2	03034	03555	04060
	40	3	H2	11/16	2	03038	03558	04064
#8	32	4	H3	3/4	2-1/8	03041	03561	04067
	36	4	H2	3/4	2-1/8	03045	03564	04071
#10	24	4	H3	7/8	2-3/8	03002	—	—
	32	4	H3	7/8	2-3/8	03009	—	—
#12	24	4	H3	15/16	2-3/8	03019	03540	04045
	28	4	H3	1/2	2-3/8	03020	03541	04046

List No. 2020 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
1/4	20	4	H3	1	2-1/2	03174	—	—
	28	4	H3	1	2-1/2	03181	—	—
	32	4	H3	1	2-1/2	03188	03700	04213
5/16	18	4	H3	1-1/8	2-23/32	03302	—	—
	24	4	H3	1-1/8	2-23/32	03308	—	—
3/8	16	4	H3	1-1/4	2-15/16	03278	—	—
	24	4	H3	1-1/4	2-15/16	03285	—	—
7/16	14	4	H3	1-7/16	3-5/32	03333	—	—
	20	4	H3	1-7/16	3-5/32	03337	—	—
1/2	20	4	H3	1-21/32	3-3/8	03165	—	—
9/16	12	4	H3	1-21/32	3-19/32	03363	03861	04377
	18	4	H3	1-21/32	3-19/32	03365	03863	04379
5/8	11	4	H3	1-13/16	3-13/16	03318	—	—
	18	4	H3	1-13/16	3-13/16	03323	—	—
11/16	11	4	H3	1-13/16	4-1/32	03195	03709	04222
	16	4	H3	1-13/16	4-1/32	03196	03710	04223
	18	4	H3	1-13/16	4-1/32	03198	03711	04224
3/4	10	4	H3	2	4-1/4	03259	—	—
	16	4	H3	2	4-1/4	03265	—	—
	16	4	H5	2	4-1/4	03269	03775	04288
	20	6	H3	2	4-1/4	03273	03781	04293
7/8	14	4	H4	2-7/32	4-11/16	03350	—	—
	9	4	H4	2-7/32	4-11/16	03361	—	—
1	12	4	H4	2-1/2	5-1/8	03136	—	—
	14	4	H4	2-1/2	5-1/8	03139	—	—
	16	6	H3	2-1/2	5-1/8	03143	03663	04172
	20	6	H3	2-1/2	5-1/8	03147	03666	04175
	8	4	H4	2-1/2	5-1/8	03151	—	—
1-1/8	12	4	H4	2-9/16	5-7/16	03080	03601	04109
	7	4	H4	2-9/16	5-7/16	03090	03612	04120
1-1/4	12	6	H4	2-9/16	5-3/4	03067	03587	04095
	7	4	H4	2-9/16	5-3/4	04543	03596	04104
1-3/8	12	6	H4	3	6-1/16	03107	03629	04138
	6	4	H4	3	6-1/16	03112	03634	04143
1-1/2	12	6	H4	3	6-3/8	03058	03577	04085
	6	4	H4	3	6-3/8	04542	03584	04092

Left Hand Straight Flute Hand Taps

Ground Thread — High Speed Steel
Bright Finish



List No. 2020 Metric

Left Hand taps are left hand cutting for producing left hand threads in a wide variety of materials.

SIZE	PITCH	NO. OF FLUTES	PITCH		THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD					
M4	0.70	4	D4	3/4	2-1/8	03489	03990	04503	
M4.5	0.75	4	D4	1/2	2-3/8	03494	03995	04508	
M5	0.80	4	D4	7/8	2-3/8	03501	04003	04516	
M6	1.00	4	D5	1	2-1/2	03509	04011	04525	
M7	1.00	4	D5	1-1/8	2-23/32	03512	04014	04528	
M8	1.00	4	D5	1-1/8	2-23/32	03518	04020	04534	
	1.25	4	D5	1-1/8	2-23/32	03522	04024	04538	
M10	1.00	4	D5	1-1/4	2-15/16	03377	03876	04391	
	1.25	4	D5	1-1/4	2-15/16	03380	03879	04394	
	1.50	4	D6	1-1/4	2-15/16	03383	03883	04398	
M12	1.25	4	D5	1-21/32	3-3/8	03392	03890	04405	
	1.75	4	D6	1-21/32	3-3/8	03397	03895	04410	
M14	1.50	4	D6	1-21/32	3-19/32	03402	03901	04416	
	2.00	4	D7	1-21/32	3-19/32	03405	03904	04419	
M16	1.50	4	D6	1-13/16	3-13/16	03410	03909	04424	
	2.00	4	D7	1-13/16	3-13/16	03413	03912	04427	
M18	1.50	4	D6	1-13/16	4-1/32	03420	03918	04433	
	2.50	4	D7	1-13/16	4-1/32	03422	03920	04435	
M20	1.50	4	D6	2	4-15/32	03431	03929	04444	
	2.50	4	D7	2	4-15/32	03435	03933	04448	
M22	1.50	4	D6	2-7/32	4-11/16	03439	03938	04452	
	2.50	4	D7	2-7/32	4-11/16	03443	03942	04456	
M24	2.00	4	D7	2-7/32	4-29/32	03447	03946	04460	
	3.00	4	D8	2-7/32	4-29/32	03450	03949	04463	
M27	3.00	4	D8	2-1/2	5-1/8	03459	03959	04472	
M30	3.50	4	D9	2-9/16	5-7/16	03470	03970	04483	

CUTTING FLUIDS

Coolants and lubricants offer many benefits including reduced friction and heat, enhanced chip removal, improved accuracy and surface finish, higher speeds and feeds, corrosion protection and increased tool life.

Proper selection and application of cutting fluids is critical to optimizing machining applications. **Please consult your cutting fluids supplier for advice on your specific machining application.**



Extension Straight Flute Hand Taps

Straight Flute Extension Hand Taps are used for tapping by hand or machine in blind holes or through holes in a wide variety of materials.

Small Shank Taps and Standard Shank Taps Size 7/16" and Larger have a shank diameter that is smaller than the minor diameter of the thread.



List No. 2040 Machine Screw
Ground Thread — High Speed Steel
Bright Finish

6" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	TAPER EDP NO.
#6	32	H3	3	Std	11/16	0.141	05132
#8	32	H3	4	Std	3/4	0.168	05133
#10	24	H3	4	Std	7/8	0.194	05130
#10	32	H3	4	Std	7/8	0.194	05131

Extension Straight Flute Hand Taps

Straight Flute Extension Hand Taps are used for tapping by hand or machine in blind holes or through holes in a wide variety of materials.

Small Shank Taps and Standard Shank Taps Size 7/16" and Larger have a shank diameter that is smaller than the minor diameter of the thread.



List No. 2040 Fractional
Ground Thread — High Speed Steel
Bright Finish

6" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	TAPER EDP NO.	PLUG EDP NO.	BOTTOMING EDP NO.
1/4	20	H3	4	Std	1	0.255	05179	—	—
	8	H3	4	Std	1	0.255	05181	—	—
5/16	18	H3	4	Small	1-1/8	0.240	—	—	05197
	18	H3	4	Std	1-1/8	0.318	05199	—	—
	24	H3	4	Std	1-1/8	0.318	05201	—	—
3/8	16	H3	4	Std	1-1/4	0.381	05191	—	—
	16	H3	4	Small	1-1/4	0.275	05194	—	—
	16	H5	4	Std	1-1/4	0.381	05195	—	—
	24	H3	4	Std	1-1/4	0.381	05196	—	—
1/2	13	H3	4	Std	1-21/32	0.367	05212	05168	—
	13	H3	4	Std	1-21/32	0.367	05173	—	—
	20	H3	4	Std	1-21/32	0.367	05177	—	05172
9/16	18	H3	4	Std	1-21/32	0.429	05217	—	—
5/8	11	H3	4	Std	1-13/16	0.480	05208	—	05204
	18	H3	4	Std	1-13/16	0.480	03225	—	—
3/4	10	H3	4	Std	2	0.590	05185	—	—

8" Overall Length

1/4	20	H3	4	Std	1	0.255	05180	—	05178
5/16	18	H3	4	Std	1-1/8	0.318	05200	—	05198
3/8	16	H3	4	Std	1-1/4	0.381	05192	—	05189
7/16	14	H3	4	Std	1-7/16	0.323	05212	—	—
	20	H3	4	Std	1-7/16	0.323	05213	—	—
1/2	13	H3	4	Std	1-21/32	0.367	05174	05169	—
5/8	11	H3	4	Std	1-13/16	0.480	05209	—	05205
3/4	10	H3	4	Std	2	0.590	05186	—	05183
7/8	9	H4	4	Std	2-7/32	0.697	05216	05214	05215
1	8	H4	4	Std	2-1/2	0.800	05158	05162	—

10" Overall Length

3/8	16	H3	4	Std	1-1/4	0.381	05193	05188	05190
1/2	13	H3	4	Std	1-21/32	0.367	05175	05166	05170
	13	H3	4	Std	1-21/32	0.367	05176	—	—
5/8	11	H3	4	Std	1-13/16	0.480	05210	05202	05206
3/4	10	H3	4	Std	2	0.590	05187	05182	05184
1	8	H4	4	Std	2-1/2	0.800	05159	05160	05163
1-1/4	7	H4	4	Std	2-9/16	1.021	05154	05146	05148
	8	H5	4	Std	2-9/16	1.021	05156	05150	05152
1-1/2	6	H4	4	Std	3	1.233	05142	05134	05136
	8	H5	4	Std	3	1.233	05144	05138	05140

12" Overall Length

1/2	13	H3	4	Std	1-21/32	0.367	—	05167	05171
5/8	11	H3	4	Std	1-13/16	0.480	05211	05203	05207
1	8	H4	4	Std	2-1/2	0.800	05165	05161	05164
1-1/4	7	H4	4	Std	2-9/16	1.021	05155	05147	05149
	8	H5	4	Std	2-9/16	1.021	05157	05151	05153
1-1/2	6	H4	4	Std	3	1.233	05143	05135	05137
	8	H5	4	Std	3	1.233	05145	05139	05141

Extension Hand Taps

High Speed Steel
Bright Finish



List No. 2040M Metric

6" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	TAPER EDP NO.	PLUG EDP NO.	BOTTOMING EDP NO.
M3.5	0.60	D4	3	Std	1 1/16	0.141	05229	05227	05228
M4	0.70	D4	4	Std	3/4	0.168	—	05230	05231
M4.5	0.75	D4	4	Std	1/2	0.194	05232	—	—
M5	0.80	D4	4	Std	7/8	0.194	—	05233	05234
M8	1.25	D5	4	Std	1-1/8	0.318	05235	—	—
M10	1.50	D6	4	Std	1-1/4	0.381	05220	05218	05219
M12	1.75	D6	4	Std	1-21/32	0.367	05221	—	—
M16	2.00	D7	4	Std	1-13/16	0.480	—	05222	—
M16	2.00	D7	4	Std	1-13/16	0.480	—	05223	05224
M20	2.50	D7	4	Std	2	0.652	05226	—	05225

TOOL COATINGS

Tool Coatings enhance cutting tool performance for increased productivity and lower overall tooling cost. Benefits include increased surface hardness, lubricity & heat resistance and decreased chemical reactivity. Results include reduced friction & torque, higher speeds & feeds, increased tool life, decreased galling & chip welding and improved surface finish.

TiN – Titanium Nitride

A good general purpose coating for a wide range of ferrous materials. Not recommended for non-ferrous materials. Has higher heat resistance than TiCN coating.

TiCN – Titanium Carbonitride

Enhanced toughness, hardness & wear resistance for aggressive speeds & feeds. Recommended for difficult-to-machine, gummy & abrasive materials where moderate cutting temperatures are generated.

TiALN – Titanium Aluminum Nitride

ALTiN – Aluminum Titanium Nitride

Excellent all around coatings featuring high heat resistance. Recommended for high thermal stress applications including dry machining, abrasive materials and hard-to-machine materials that generate higher cutting temperatures. ALTiN has higher AL content for increased hardness & heat resistance.

CrN – Chromium Nitride

CrC – Chromium Carbide

Especially recommended for titanium and non-ferrous materials including aluminum, copper & brass. CrC has slightly higher hardness than CrN. These coatings resist adhesion of the material being machined and resist chipping and cracking.

DLC – Diamond Like Carbon

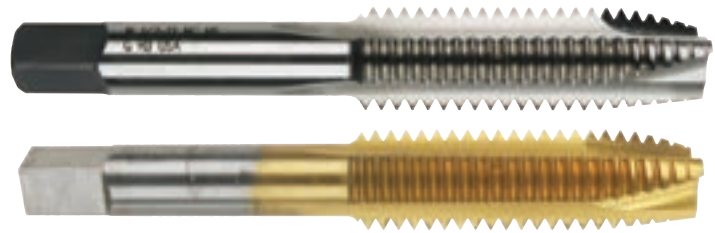
A thin carbon based amorphous (non-crystalline) coating featuring very high hardness & low coefficient of friction. Highly recommended for non-ferrous materials including plastic, aluminum, copper & brass. Typically used on solid carbide tools.



Spiral Point Plug Taps

High Speed Steel
Straight Flute

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength allowing for higher cutting speeds.



List No. 2047 Machine Screw

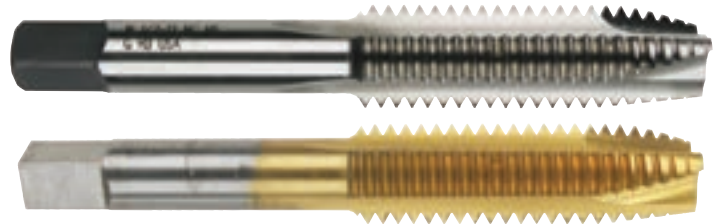
TiN – Titanium Nitride is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. Increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	BRIGHT EDP NO.	TIN EDP NO.
			DIA. LIMIT	THREAD LENGTH			
#00	90	0	H1	3/8	1-5/8	04600	—
	96	0	H1	5/16	1-5/8	04601	—
#0	80	0	H3	5/16	1-5/8	04604	—
#1	56	0	H1	13/32	1-11/16	04617	—
	56	2	H3	7/16	1-3/4	04619	—
	56	2	H4	7/16	1-3/4	04620	—
	56	2	H5	7/16	1-3/4	04621	—
#2	56	2	H7	7/16	1-3/4	04622	—
	40	2	H3	9/16	1-7/8	04625	—
	40	2	H4	9/16	1-7/8	04626	04630
	40	2	H5	9/16	1-7/8	04627	—
#4	40	2	H7	9/16	1-7/8	04628	—
	40	2	H11	9/16	1-7/8	04629	—
	40	2	H5	5/8	1-15/16	04633	04636
	40	2	H7	5/8	1-15/16	04634	—
#5	40	2	H11	5/8	1-15/16	04635	—
	32	2	H5	11/16	2	04638	—
	32	2	H7	11/16	2	04639	—
#6	40	2	H3	11/16	2	04640	—
	48	2	H2	11/16	2	04641	—
	32	2	H5	3/4	2-1/8	04643	04645
	32	2	H7	3/4	2-1/8	04644	—
#8	40	2	H2	3/4	2-1/8	04647	—
	24	2	H5	7/8	2-3/8	04606	—
	24	2	H7	7/8	2-3/8	04607	—
#10	32	2	H4	7/8	2-3/8	04609	04612
	32	2	H5	7/8	2-3/8	04610	04613
	32	2	H7	7/8	2-3/8	04611	—
	32	2	H11	7/8	2-3/8	—	04614
	40	2	H2	7/8	2-3/8	04615	—
	40	2	H2	7/8	2-3/8	04615	—
#12	32	2	H3	15/16	2-3/8	04616	—

Spiral Point Plug Taps

High Speed Steel
Straight Flute

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength allowing for higher cutting speeds.



List No. 2047 Fractional

TiN - Titanium Nitride is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. Increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

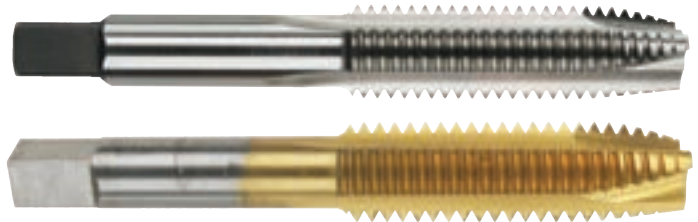
SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	BRIGHT EDP NO.	TiN EDP NO.
1/4	20	2	H7	1	2-1/2	04658	04659
	20	2	H11	1	2-1/2	—	04660
	24	2	H3	1	2-1/2	04661	—
	28	2	H5	1	2-1/2	04663	—
	28	2	H7	1	2-1/2	04664	—
1/4	28	2	H11	1	2-1/2	04665	—
	32	2	H3	1	2-1/2	04666	—
	36	2	H2	1	2-1/2	04667	—
	36	2	H3	1	2-1/2	04668	04669
5/16	40	3	H2	1	2-1/2	04670	—
	18	2	H7	1-1/8	2-23/32	04684	—
	24	2	H5	1-1/8	2-23/32	04686	—
	24	2	H11	1-1/8	2-23/32	04687	—
3/8	32	2	H3	1-1/8	2-23/32	04688	—
	16	2	H3	1-1/4	2-15/16	04676	—
	16	3	H7	1-1/4	2-15/16	04677	—
	24	3	H5	1-1/4	2-15/16	04679	—
	24	3	H7	1-1/4	2-15/16	04680	—
7/16	24	3	H11	1-1/4	2-15/16	04681	—
	32	3	H3	1-1/4	2-15/16	04682	—
	14	3	H11	1-7/16	3-5/32	04694	—
15/32	20	3	H11	1-7/16	3-5/32	04695	—
	32	3	H3	1-21/32	3-3/8	04671	—
1/2	13	3	H11	1-21/32	3-3/8	—	04653
	20	3	H11	1-21/32	3-3/8	04655	—
	28	3	H3	1-21/32	3-3/8	04656	—
9/16	12	3	H3	1-21/32	3-19/32	04698	—
	18	3	H3	1-21/32	3-19/32	04699	—
	18	3	H5	1-21/32	3-19/32	04700	—
	18	3	H11	1-21/32	3-19/32	04701	—
	20	3	H3	1-21/32	3-19/32	04702	—
5/8	18	3	H3	1-13/16	3-13/16	04690	—
	18	3	H5	1-13/16	3-13/16	04691	04692
3/4	10	3	H11	2	4-1/4	04672	—
	16	3	H3	2	4-1/4	04673	—
	16	3	H5	2	4-1/4	04674	—
7/8	9	3	H4	2-7/32	4-11/16	04697	—
	14	3	H4	2-7/32	4-11/16	04696	—
1	8	3	H4	2-1/2	5-1/8	04650	—
	8	3	H11	2-1/2	5-1/8	04651	—
	14	3	H4	2-1/2	5-1/8	04649	—
1-1/4	7	3	H4	2-9/16	5-3/4	04648	—



Right Hand Metric Spiral Point Plug Taps

High Speed Steel
Straight Flute

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength allowing for higher cutting speeds.



List No. 7501 Metric

TiN - Titanium Nitride is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. Increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	BRIGHT EDP NO.	TiN EDP NO.
M1.6	0.35	0	D3	5/16	1-5/8	04703	—
M1.8	0.35	0	D3	3/8	1-11/16	04704	—
M2	0.40	2	D3	7/16	1-3/4	04733	—
M2.2	0.45	2	D3	7/16	1-3/4	04734	—
M2.5	0.45	2	D1	1/2	1-13/16	04736	—
	0.45	2	D3	1/2	1-13/16	04735	—
M3	0.50	2	D1	5/8	1-15/16	04743	—
	0.50	2	D3	5/8	1-15/16	04740	—
	0.50	2	D5	5/8	1-15/16	04741	—
	0.50	2	D7	5/8	1-15/16	04742	—
M3.5	0.60	2	D1	11/16	2	04745	—
	0.60	2	D4	11/16	2	04744	—
	0.60	2	D11	11/16	2	04746	—
M4	0.70	2	D2	3/4	2-1/8	04749	—
	0.70	2	D4	3/4	2-1/8	04747	—
	0.70	2	D5	3/4	2-1/8	04748	—
	0.70	2	D7	3/4	2-1/8	04750	—
	0.70	2	D11	3/4	2-1/8	04751	—
M4.5	0.75	2	D2	7/8	2-3/8	04753	—
	0.75	2	D4	7/8	2-3/8	04752	—
	0.75	2	D11	7/8	2-3/8	04754	—
M5	0.50	2	D3	7/8	2-3/8	04755	—
	0.80	2	D2	7/8	2-3/8	04757	—
	0.80	2	D4	7/8	2-3/8	04756	—
	0.80	2	D7	7/8	2-3/8	04758	04760
	0.80	2	D11	7/8	2-3/8	04759	—
M5.5	0.90	2	D3	7/8	2-3/8	04761	—
	0.90	2	D3	15/16	2-3/8	04762	—
M6	0.75	2	D3	1	2-1/2	04763	—
	1.00	2	D3	1	2-1/2	04765	—
	1.00	2	D5	1	2-1/2	04764	—
	1.00	2	D11	1	2-1/2	04766	—
M7	1.00	2	D5	1-1/8	2-23/32	04767	—
	1.00	2	D11	1-1/8	2-23/32	04768	—
M8	1.00	2	D3	1-1/8	2-23/32	04770	—
	1.00	2	D5	1-1/8	2-23/32	04769	—
	1.00	2	D11	1-1/8	2-23/32	04771	—
	1.25	2	D3	1-1/8	2-23/32	04773	—
	1.25	2	D5	1-1/8	2-23/32	04772	04775
	1.25	2	D11	1-1/8	2-23/32	04774	—
M10	1.00	3	D5	1-1/4	2-15/16	04705	—
	1.25	3	D3	1-1/4	2-15/16	04706	—
	1.25	3	D5	1-1/4	2-15/16	04707	04709
	1.25	3	D11	1-1/4	2-15/16	04708	—
M10	1.50	3	D3	1-1/4	2-15/16	04711	—
	1.50	3	D6	1-1/4	2-15/16	04710	—
	1.50	3	D11	1-1/4	2-15/16	04713	—
	1.50	3	D7	1-1/4	2-15/16	04712	—
M11	1.50	3	D6	1-7/16	3-5/32	04714	—
M12	1.00	3	D5	1-21/32	3-3/8	04715	—
	1.25	3	D3	1-21/32	3-3/8	04717	—
	1.25	3	D5	1-21/32	3-3/8	04716	—
	1.50	3	D6	1-21/32	3-3/8	04718	04719

List No. 7501 Metric (continued)

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	BRIGHT EDP NO.	TIN EDP NO.
M12	1.75	3	D3	1-21/32	3-3/8	04721	—
	1.75	3	D6	1-21/32	3-3/8	04720	—
	1.75	3	D11	1-21/32	3-3/8	04722	—
M14	1.50	3	D3	1-21/32	3-19/32	04724	—
	1.50	3	D6	1-21/32	3-19/32	04723	—
	2.00	3	D3	1-21/32	3-19/32	04726	—
	2.00	3	D7	1-21/32	3-19/32	04725	—
M16	1.50	3	D3	1-13/16	3-13/16	04728	—
	1.50	3	D6	1-13/16	3-13/16	04727	—
	2.00	3	D4	1-13/16	3-13/16	04730	—
	2.00	3	D7	1-13/16	3-13/16	04729	—
	2.00	3	D11	1-13/16	3-13/16	04731	—
M18	2.50	3	D7	1-13/16	4-1/32	04732	—
M20	2.50	3	D7	2	4-15/32	04737	04738
M24	3.00	3	D8	2-7/32	4-29/32	04739	—

Left Hand Spiral Point Plug Taps

High Speed Steel
Straight Flute
Bright Finish



List No. 2047L Machine Screw Fractional

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength allowing for higher cutting speeds.

List No. 2047L Machine Screw

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	EDP NO.
#0	80	0	H1	5/16	1-5/8	04602
	80	2	H1	5/16	1-5/8	04603
#2	56	2	H2	7/16	1-3/4	04618
#3	48	2	H2	1/2	1-13/16	04623
#4	40	2	H2	9/16	1-7/8	04624
	48	2	H2	9/16	1-7/8	04631
#5	40	2	H2	5/8	1-15/16	04632
#6	32	2	H3	11/16	2	04637
#8	32	2	H3	3/4	2-1/8	04642
	36	2	H2	3/4	2-1/8	04646
#10	24	2	H3	7/8	2-3/8	04605
	32	2	H3	7/8	2-3/8	04608

List No. 2047L Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	EDP NO.
1/4	20	2	H3	1	2-1/2	04657
	28	2	H3	1	2-1/2	04662
5/16	18	2	H3	1-1/8	2-23/32	04683
	24	2	H3	1-1/8	2-23/32	04685
3/8	16	3	H3	1-1/4	2-15/16	04675
	24	3	H3	1-1/4	2-15/16	04678
7/16	14	3	H3	1-7/16	3-5/32	04693
1/2	13	3	H3	1-21/32	3-3/8	04652
	20	3	H3	1-21/32	3-3/8	04654
5/8	11	3	H3	1-13/16	3-13/16	04689



Slow Spiral Spiral Flute Taps

High Speed Steel
30° Helix Angle

Bright Finish

Spiral Flute taps lift the chips out of the hole in blind hole tapping, eliminating chip disposal problems, damaged threads and broken taps. They will also bridge interruptions in the tapped hole. **Slow Spiral** taps have a stronger cutting edge (less susceptible to chipping) than Fast Spiral taps and are recommended for general purpose applications. (less susceptible to chipping) than Fast Spiral taps and are recommended for general purpose applications.



List No. 2039 Fractional

List No. 2039 Metric

List No. 2039 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH				
3/8	24	3	H5	1-1/4	2-15/16	—	04814	04815
5/8	11	4	H3	1-13/16	3-13/16	04878	04816	04818
	18	4	H3	1-13/16	3-13/16	04879	04820	04822
3/4	10	4	H3	2	4-1/4	04895	04808	04809
	16	4	H3	2	4-1/4	—	04810	04811
7/8	9	4	H4	2-7/32	4-11/16	04880	04825	04826
1	8	4	H4	2-1/2	5-1/8	—	04802	04804

List No. 2039 Metric

SIZE	PITCH	NO. OF FLUTES	PITCH		OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
			DIA. LIMIT	THREAD LENGTH				
M3	0.50	2	D3	5/8	1-15/16	04885	04846	04848
M3.5	0.60	2	D4	11/16	2	04886	04850	04852
M4	0.70	2	D4	3/4	2-1/8	04888	04854	04856
M4.5	0.75	2	D4	7/8	2-3/8	04889	04858	04860
M5	0.80	2	D4	7/8	2-3/8	04890	04862	04864
M6	1.00	3	D5	1	2-1/2	04891	04866	04868
M8	1.00	3	D5	1-1/8	2-23/32	04892	04870	04872
	1.25	3	D5	1-1/8	2-23/32	04894	04874	04876
M10	1.25	3	D5	1-1/4	2-15/16	04881	04827	04829
	1.50	3	D6	1-1/4	2-15/16	04882	04831	04833
M12	1.25	3	D5	1-21/32	3-3/8	—	04835	—
	1.25	3	D5	1-21/32	3-3/8	04883	04837	04838
	1.75	3	D6	1-21/32	3-3/8	04884	04840	04842

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Fast Spiral Spiral Flute Taps

High Speed Steel
52° Helix Angle
Bright Finish



List No. 2063 Machine Screw

Spiral Flute taps lift the chips out of the hole in blind hole tapping, eliminating chip disposal problems, damaged threads and broken taps. They will also bridge interruptions in the tapped hole. **Fast Spiral** taps provide enhanced chip lifting action, will bridge wider interruptions and have a freer-cutting geometry. Recommended for softer materials that produce stringy chips.

List No. 2063 Machine Screw

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
4	40	2	H3	9/16	1-7/8	04800	04801

Fast Spiral Spiral Flute Taps

High Speed Steel
52° Helix Angle
Bright Finish



List No. 2059 Fractional

List No. 2059 Metric

Spiral Flute taps lift the chips out of the hole in blind hole tapping, eliminating chip disposal problems, damaged threads and broken taps. They will also bridge interruptions in the tapped hole. **Fast Spiral** taps provide enhanced chip lifting action, will bridge wider interruptions and have a freer-cutting geometry. Recommended for softer materials that produce stringy chips.

List No. 2059 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
1/4	20	3	H5	1	2-1/2	04806	04807
3/8	16	3	H5	1-1/4	2-15/16	04812	04813
5/8	11	4	H3	1-13/16	3-13/16	04817	04819
	18	4	H3	1-13/16	3-13/16	04821	04823
	18	4	H3	1-13/16	3-13/16	—	04824
1	8	4	H4	2-1/2	5-1/8	04803	04805

List No. 2059 Metric

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	TAPER EDP NO.	PLUG EDP NO.	BOTTOM EDP NO.
M3	0.50	2	D3	5/8	1-15/16	—	04847	04849
M3.5	0.60	2	D4	11/16	2	04887	04851	04853
M4	0.70	3	D4	3/4	2-1/8	—	04855	04857
M4.5	0.75	3	D4	7/8	2-3/8	—	04859	04861
M5	0.80	3	D4	7/8	2-3/8	—	04863	04865
M6	1.00	3	D5	1	2-1/2	—	04867	04869
M8	1.00	3	D5	1-1/8	2-23/32	04893	04871	04873
	1.25	3	D5	1-1/8	2-23/32	—	04875	04877
M10	1.25	3	D5	1-1/4	2-15/16	—	04828	04830
	1.50	3	D6	1-1/4	2-15/16	—	04832	04834
M12	1.25	3	D5	1-21/32	3-3/8	—	04836	04839
	1.75	3	D6	1-21/32	3-3/8	—	04841	04843
M20	2.50	4	D7	2	4-15/32	—	04844	04845



Thread Forming Taps

Ground Thread — High Speed Steel

Thread Forming taps cold form rather than cut the threads. Advantages include no chips to dispose of, stronger higher quality threads, increased tapping speeds, longer tap life and reduced tap breakage. Recommended for a wide variety of ductile materials.

Lube Grooves provide a path for lubrication and act as vents to relieve pressure in blind hole tapping.

Plug Style (4 threads tapered) for through holes and blind holes with adequate depth. The longer taper lead is easier starting, requires less torque, produces less burr above the mouth of the tapped hole and increases tool life.

Bottoming Style (2 threads tapered) for blind holes.

Titanium Nitride (TiN) Coating results in an extremely hard surface with high lubricity for increased tool life, improved thread quality, reduced torque and increased tapping speeds for greater productivity.



List No. 2105 Machine Screw Fractional Metric

List No. 2105 Machine Screw

SIZE	PITCH	PITCH DIA. LIMIT	THREAD LENGTH	OAL	NO. OF LUBE GROOVES	PLUG EDP NO.	BOTTOM EDP NO.
#0	80	H3	5/16	1-5/8	0	—	04930
#1	64	H3	3/8	1-11/16	0	—	04937
	72	H3	3/8	1-11/16	0	—	04938
#6	32	H10	3/8	2	1	04939	04940
	32	H10	3/8	2-1/8	1	04941	04942
#10	24	H10	1/2	2-3/8	1	04931	04932
	32	H10	1/2	2-3/8	1	04933	04934
#12	28	H4	1/2	2-3/8	1	—	04935
	28	H6	1/2	2-3/8	1	—	04936

List No. 2105 Fractional

SIZE	PITCH	PITCH DIA. LIMIT	THREAD LENGTH	OAL	NO. OF LUBE GROOVES	PLUG EDP NO.	BOTTOM EDP NO.
1/4	20	H10	5/8	2-1/2	1	04945	04946
	28	H10	5/8	2-1/2	1	04947	04948
5/16	18	H10	11/16	2-23/32	1	04953	04954
	24	H10	11/16	2-23/32	1	04955	04956
3/8	16	H10	3/4	2-15/16	1	04949	04950
	24	H10	3/4	2-15/16	1	04951	04952
1/2	20	H10	15/16	3-3/8	1	04943	04944

List No. 2105 Metric

SIZE	PITCH	PITCH DIA. LIMIT	THREAD LENGTH	OAL	NO. OF LUBE GROOVES	PLUG EDP NO.	BOTTOM EDP NO.
M3.5	0.60	D6	3/8	2	1	04969	04970
M4.5	0.75	D6	1/2	2-3/8	1	04971	04972
M5	0.80	D7	1/2	2-3/8	1	—	04973
M7	1.00	D8	11/16	2-23/32	1	04974	04975
M8	1.00	D8	11/16	2-23/32	1	04976	04977
M10	1.25	D9	3/4	2-15/16	1	04957	04958
M12	1.25	D10	15/16	3-3/8	1	04959	04960
M14	1.50	D11	1	3-19/32	1	04961	04962
	2.00	D12	1	3-19/32	1	04963	04964
M16	2.00	D14	1-3/32	3-13/16	1	04965	04966
M18	1.50	D12	1-3/32	4-1/32	1	04967	04968

Extension Spiral Point Plug Taps

Spiral Point Extension Taps are used for tapping through holes by machine in a wide variety of materials. Chips are ejected ahead of the tap eliminating problems associated with chips remaining in the hole.



List No. 2041
Ground Thread — High Speed Steel
Bright Finish

Small Shank Taps and Standard Shank Taps Size 7/16" and Larger have a shank diameter that is smaller than the minor diameter of the thread.

List No. 2041 Machine Screw

4" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	EDP NO.
#10	32	H3	2	Std	7/8	0.194	05100

List No. 2041 Fractional

4" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	EDP NO.
1/4	20	H3	2	Std	1	0.255	05102
5/16	18	H3	2	Std	1-1/8	0.318	05113
	24	H3	2	Small	1-1/8	0.240	05115
3/8	16	H3	3	Std	1-1/4	0.381	05108
	24	H3	3	Small	1-1/4	0.275	05112

6" Overall Length

3/8	16	H5	3	Std	1-1/4	0.381	05109
5/8	11	H3	3	Std	1-13/16	0.430	05116
3/4	10	H3	3	Std	2	0.480	05106

List No. 2041 Metric

6" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	EDP NO.
M3.5	0.60	D4	2	Std	11/16	0.141	05122
M4.5	0.75	D4	2	Std	7/8	0.194	05123
M10	1.50	D6	3	Small	1-1/4	0.323	05118
M16	2.00	D7	3	Std	1-13/16	0.480	05121
M10	1.50	D6	3	Std	1-1/4	0.381	05119
M12	1.75	D6	3	Std	1-21/32	0.367	05120

Extension Spiral Point Plug Taps

Spiral Point Extension Taps are used for tapping through holes by machine in a wide variety of materials. Chips are ejected ahead of the tap eliminating problems associated with chips remaining in the hole.



List No. 2041
Ground Thread — High Speed Steel
Titanium Nitride

Small Shank Taps and Standard Shank Taps Size 7/16" and Larger have a shank diameter that is smaller than the minor diameter of the thread.

List No. 2041 Fractional

4" Overall Length

SIZE	PITCH	PITCH DIA. LIMIT	NO. OF FLUTES	SHANK STYLE	THREAD LENGTH	SHANK DIA.	EDP NO.
1/4	20	H3	2	Std	1	0.255	05105

6" Overall Length

1/4	20	H3	2	Std	1	0.255	05103
	20	H3	2	Small	1	0.185	05104
5/16	18	H3	2	Std	1-1/8	0.318	05114
3/8	16	H3	3	Std	1-1/4	0.381	05110
	16	H3	3	Small	1-1/4	0.275	05111
1/2	13	H3	3	Std	1-21/32	0.367	05101
5/8	11	H3	3	Std	1-13/16	0.480	05117
3/4	10	H3	3	Std	2	0.580	05107



Extension Straight Flute Taper Pipe Taps

Ground Thread — High Speed Steel
NPT

Bright & TiN Finish

Right Hand Cut

Regular Thread NPT taper pipe taps are commonly used for tapping pipe fittings and couplings in a wide variety of materials. Assembly requires the use of a thread sealant to ensure a tight seal.



List No. 2042 Fractional

Interrupted Thread taper pipe taps reduce friction, increase chip capacity and enhance coolant flow to the cutting teeth for reduced chance of torn threads and improved thread quality. Recommended for a wide variety of materials, especially soft ductile materials and materials producing long continuous chips.

TiN - Titanium Nitride is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. Increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

6" Overall Length

SIZE	PITCH	NO. OF FLUTES	FLUTE TYPE	THREAD LENGTH	BRIGHT EDP NO.	TiN EDP NO.
1/8	27	5	Tapered-Interrupted	3/4	05256	05266
1/4	18	4	Tapered	1-1/16	—	05277
1/4	18	5	Tapered	1-1/16	—	05279
3/8	18	4	Tapered	1-1/16	—	05290
3/8	18	5	Tapered-Interrupted	1-1/16	05284	05292
1/2	14	5	Tapered-Interrupted	1-3/8	05296	—
3/4	14	5	Tapered-Interrupted	1-3/8	05306	—

8" Overall Length

1/8	27	4	Tapered	3/4	05259	—
1/4	18	4	Tapered	1-1/16	05272	—
3/8	18	4	Tapered	1-1/16	05286	—
1/2	14	4	Tapered	1-3/8	05299	—
3/4	14	5	Tapered	1-3/8	05308	—

10" Overall Length

1/8	27	4	Tapered	3/4	05261	—
1/2	14	4	Tapered	1-3/8	05301	—
3/4	14	5	Tapered	1-3/8	05310	—
1	11-1/2	5	Tapered	1-3/4	05315	—

12" Overall Length

1/8	27	4	Tapered	3/4	05263	—
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Extension Straight Flute Taper Pipe Taps

Ground Thread — High Speed Steel
NPTF

Bright Finish

Right Hand Cut

NPTF Dryseal taper pipe taps produce threads where a tight seal is achieved during assembly by metal-to-metal contact. Used for applications requiring a tight seal without the use of thread sealants.



List No. 2042 Fractional

TiN - Titanium Nitride is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. Increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

Interrupted Thread taper pipe taps reduce friction, increase chip capacity and enhance coolant flow to the cutting teeth for reduced chance of torn threads and improved thread quality. Recommended for a wide variety of materials, especially soft ductile materials and materials producing long continuous chips.

6" Overall Length

SIZE	PITCH	NO. OF FLUTES	FLUTE TYPE	THREAD LENGTH	BRIGHT EDP NO.	TiN EDP NO.
1/8	27	5	Tapered-Interrupted	3/4	05257	05267
1/4	18	5	Tapered-Interrupted	1-1/16	05271	05278
1/4	18	5	Tapered	1-1/16	—	05280
3/8	18	5	Tapered-Interrupted	1-1/16	05285	05293
3/8	18	4	Tapered	1-1/16	—	05291
1/2	14	5	Tapered-Interrupted	1-3/8	05297	—
3/4	14	5	Tapered-Interrupted	1-3/8	05307	—

8" Overall Length

1/8	27	4	Tapered	3/4	05260	—
1/4	18	4	Tapered	1-1/16	05273	—
3/8	18	4	Tapered	1-1/16	05287	—
1/2	14	4	Tapered	1-3/8	05300	—
3/4	14	5	Tapered	1-3/8	05309	—

10" Overall Length

1/8	27	4	Tapered	3/4	05262	—
1/2	14	4	Tapered	1-3/8	05302	—
3/4	14	5	Tapered	1-3/8	05311	—
1	11-1/2	5	Tapered	1-3/4	05316	—

12" Overall Length

1/8	27	4	Tapered	3/4	05264	—
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Extension Straight Flute Straight Pipe Taps

Ground Thread — High Speed Steel
NPS-NPSF
Bright Finish
Right Hand Cut



List No. 2042A Fractional

NPS straight pipe taps produce straight pipe threads for low pressure applications in a wide variety of materials. Can be assembled with taper pipe threads, straight pipe threads or fittings. Assembly requires the use of a thread sealant to ensure a tight seal.

NPSF Dryseal straight pipe taps produce threads where a tight seal is achieved during assembly by metal-to-metal contact when assembled with dryseal taper pipe threads. Used for applications requiring a tight seal without the use of thread sealants.

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	NPS EDP NO.	NPSF EDP NO.
1/8	27	4	3/4	6	—	05258
1/4	18	4	1-1/16	6	05275	05274
3/8	18	4	1-1/16	6	—	05289
1/2	14	4	1-3/8	6	—	05298

PTF-SAE – Straight Pipe Taps

Ground Thread — High Speed Steel
Bright Finish
Right Hand Cut



List No. 2119P Fractional

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
1/4	18	4	1-1/16	2-7/16	05270	05281

Straight Pipe Taps

Ground Thread — High Speed Steel
NPS-NPSF
Bright Finish
Right Hand Cut



List No. 2123 Fractional

NPS straight pipe taps produce straight pipe threads for low pressure applications in a wide variety of materials. Can be assembled with taper pipe threads, straight pipe threads or fittings. Assembly requires the use of a thread sealant to ensure a tight seal.

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	NPS EDP NO.	NPSF EDP NO.
1-1/4	11-1/2	5	1-3/4	4	05319	05320
1-1/2	11-1/2	7	1-3/4	4-1/4	05323	—
2	11-1/2	7	1-3/4	4-1/4	05326	—



NPSI – Straight Pipe Taps

Ground Thread — High Speed Steel
Bright Finish
Right Hand Cut

NPS straight pipe taps produce straight pipe threads for low pressure applications in a wide variety of materials. Can be assembled with taper pipe threads, straight pipe threads or fittings. Assembly requires the use of a thread sealant to ensure a tight seal.



List No. 2123 Fractional

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	EDP NO.
1/8	27	4	3/4	2-1/8	05265
1/4	18	4	1-1/16	2-7/16	05276
3/8	18	4	1-1/16	2-9/16	05288
1/2	14	4	1-3/8	3-1/8	05303
3/4	14	5	1-3/8	3-1/4	05312

NPT-NPTF Pipe Taps

Ground Thread — High Speed Steel
NPT-NPTF
Bright Finish

Regular Thread NPT taper pipe taps are commonly used for tapping pipe fittings and couplings in a wide variety of materials. Assembly requires the use of a thread sealant to ensure a tight seal.

NPTF Dryseal taper pipe taps produce threads where a tight seal is achieved during assembly by metal-to-metal contact. Used for applications requiring a tight seal without the use of thread sealants.



List No. 2113 Interrupted Thread Right Hand



List No. 2119 Regular Thread Right Hand & Left Hand

List No. 2119 — Right Hand — Regular Thread

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	NPT EDP NO.	NPTF EDP NO.
2-1/2	8	7	2-9/16	5-1/2	05324	05488
3	8	9	2-5/8	6	05327	05491
3-1/2	8	9	2-11/16	6-1/2	05331	05495
4	8	9	2-3/4	6-3/4	05335	05499

List No. 2113 — Right Hand — Interrupted Thread

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	NPT EDP NO.	NPTF EDP NO.
3	8	9	2-5/8	6	05329	05493
3-1/2	8	9	2-11/16	6-1/2	05333	05497
4	8	9	2-3/4	6-3/4	05337	05501

List No. 2119 — Left Hand — Regular Thread

SIZE	PITCH	NUMBER OF FLUTES	THREAD LENGTH	OAL	NPT EDP NO.	NPTF EDP NO.
1/16	27	4	11/16	2-1/8	05250	05251
1/8	27	4	3/4	2-1/8	05254	05255
1/4	18	4	1-1/16	2-7/16	05268	05269
3/8	18	4	1-1/16	2-9/16	05282	05283
1/2	14	4	1-3/8	3-1/8	05294	05295
3/4	14	5	1-3/8	3-1/4	05304	05305
1	11-1/2	5	1-3/4	3-3/4	05313	05314
1-1/4	11-1/2	5	1-3/4	4	05317	05318
1-1/2	11-1/2	7	1-3/4	4-1/4	05321	05322

BSPT Taper Taps

Ground Thread — High Speed Steel
Bright Finish — General Purpose
55°



List No. 2119W Fractional

List No. 2119W Fractional

SIZE	NO. OF FLUTES	PITCH	THREAD LENGTH	OAL	FLUTE TYPE	PLUG EDP NO.	BOTTOM EDP NO.
1/8	4	28	3/4	2-1/8	Taper Modified	05039	05043
	4	28	3/4	2-1/8	Taper Full Form	05041	—
1/4	4	19	1-1/16	2-7/16	Taper Modified	05027	05031
	4	19	1-1/16	2-7/16	Taper Full Form	05029	—
3/8	4	19	1-1/16	2-9/16	Taper Modified	05060	05058
	4	19	1-1/16	2-9/16	Taper Modified	05062	—
1/2	4	14	1-3/8	3-1/8	Taper Modified	05020	05024
	4	14	1-3/8	3-1/8	Taper Full Form	05022	—
3/4	5	14	1-3/8	3-1/4	Taper Modified	05051	05055
	5	14	1-3/8	3-1/4	Taper Full Form	05053	—
1	5	11	1-3/4	3-3/4	Taper Modified	05014	05017
	5	11	1-3/4	3-3/4	Taper Modified	—	—
	5	11	1-3/4	3-3/4	Taper Full Form	05015	—
1-1/4	5	11	1-3/4	4	Taper Modified	05006	05010
	5	11	1-3/4	4	Taper Full Form	05008	—
1-1/2	7	11	1-3/4	4-1/4	Taper Modified	05000	05004
	7	11	1-3/4	4-1/4	Taper Full Form	05002	—
2	7	11	1-3/4	4-1/4	Taper Modified	05045	05049
	7	11	1-3/4	4-1/4	Taper Full Form	05047	—

BSPP Parallel Taps

Ground Thread — High Speed Steel
Bright Finish — General Purpose
55°



List No. 2119W Fractional

List No. 2119W Fractional

SIZE	NO. OF FLUTES	PITCH	THREAD LENGTH	OAL	FLUTE TYPE	PLUG EDP NO.	BOTTOM EDP NO.
1/8	4	28	3/4	2-1/8	Parallel Modified	05040	05044
	4	28	3/4	2-1/8	Parallel Full Form	05042	—
1/4	4	19	1-1/16	2-7/16	Parallel Modified	05028	05032
	4	19	1-1/16	2-7/16	Parallel Full Form	05030	—
3/8	4	19	1-1/16	2-9/16	Parallel Full Form	05057	05059
	4	19	1-1/16	2-9/16	Parallel Modified	05061	—
1/2	4	14	1-3/8	3-1/8	Parallel Modified	05021	05025
	4	14	1-3/8	3-1/8	Parallel Full Form	05023	—
3/4	5	14	1-3/8	3-1/4	Parallel Modified	05052	05056
	5	14	1-3/8	3-1/4	Parallel Full Form	05054	—
1	5	11	1-3/4	3-3/4	Parallel Modified	05012	05013
	5	11	1-3/4	3-3/4	Parallel Full Form	05016	—
1-1/4	5	11	1-3/4	4	Parallel Modified	05007	05011
	5	11	1-3/4	4	Parallel Full Form	05009	—
1-1/2	7	11	1-3/4	4-1/4	Parallel Modified	05001	05005
	7	11	1-3/4	4-1/4	Parallel Full Form	05003	—
2	7	11	1-3/4	4-1/4	Parallel Modified	05046	05050
	7	11	1-3/4	4-1/4	Parallel Full Form	05048	—



BSF-Whitworth Fine Taps

Ground Thread — High Speed Steel
 Bright Finish — General Purpose
 Straight Flute — 55°



List No. 2119W Fractional

SIZE	PITCH	NO. OF FLUTES	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.	TAPER EDP NO.
1/4	26	4	1	2-1/2	05035	05036	05038
5/16	22	4	1-1/8	2-23/32	05068	05069	05071
3/8	20	4	1-1/4	2-15/16	05063	05064	05065

BSW-Whitworth Coarse Taps

Ground Thread — High Speed Steel
 Bright Finish — General Purpose
 Straight Flute — 55°



List No. 2119W Fractional

SIZE	PITCH	NO. OF FLUTES	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.	TAPER EDP NO.
1/4	20	4	1	2-1/2	05033	05034	05037
5/16	18	4	1-1/8	2-23/32	05066	05067	05070
1/2	12	4	1-21/32	3-3/8	05018	05019	05026
5/8	11	4	1-13/16	3-13/16	05072	05073	05074

Combined Tap and Drill

High Speed Steel
 Bright Finish

Combined Tap and Drills drill and tap in a single pass for increased productivity. Recommended for through hole applications up to 2X the nominal diameter of the tap. The self-centering point eliminates the need for center drilling or center punching. **NOTE: Drill point must penetrate the workpiece prior to start of tapping.**



List No. 2080 Machine Screw Fractional Metric

List No. 2080 Machine Screw

SIZE	PITCH	PITCH DIA. LIMIT	THREAD LENGTH	DRILL DIA.	DRILL LENGTH	OAL	EDP NO.
4	40	H2	3/8	0.9100	0.2500	1-7/8	06000

List No. 2080 Fractional

SIZE	PITCH	PITCH DIA. LIMIT	THREAD LENGTH	DRILL DIA.	DRILL LENGTH	OAL	EDP NO.
1/16	27	—	11/16	0.2420	0.6875	2-1/8	06006
1/8	27	—	3/4	0.3320	0.7500	2-1/8	06007
1/4	18	—	1-1/16	0.4830	0.8750	2-7/16	06008
3/8	18	—	1-1/16	0.5620	0.9375	2-9/16	06009
1/2	14	—	1-3/8	0.7030	1.2500	3-1/8	06010
5/8	11	H3	1-3/4	0.5480	1.5000	5-1/16	06001
3/4	14	—	1-3/8	0.9060	1.3125	3-1/4	06011
1	11-1/2	—	1-3/4	1.1410	1.6250	3-3/4	06012

List No. 2080 Metric

SIZE	PITCH	PITCH DIA. LIMIT	THREAD LENGTH	DRILL DIA.	DRILL LENGTH	OAL	EDP NO.
M3	0.50	D3	13/32	0.1020	0.2812	1-15/16	06002
M3.5	0.60	D4	7/16	0.1200	0.3125	2	06003
M4.5	0.75	D4	5/8	0.1520	0.4062	2-3/8	06004
M7	1.00	D5	15/16	0.2420	0.6875	2-23/32	06005

Pulley Taps

Ground Thread — High Speed Steel
Bright Finish

Pulley taps, commonly used wherever extra reach is required, were originally designed for tapping holes in pulleys with hubs. The shank diameter is the same diameter as the major diameter of the thread and the threaded section has the same dimensions as a standard hand tap.



List No. 2082 Fractional

Plug Style - H3 Pitch Dia. Limit

STANDARD PACKAGE All sizes — 1 each

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.	TAPER EDP NO.
7/16	20	4	H3	1-7/16	6	04903	04904	04905
1/2	20	4	H3	1-21/32	6	04900	04901	04902

Conduit Thread Taps

High Speed Steel

80° Angle
Bright Finish



List No. 2087 Metric

SIZE	PITCH	NO. OF FLUTES	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
M12.5	1.27	4	1-21/32	3-3/8	05413	05414
M15.2	1.41	4	1-13/16	3-13/16	05415	05416
M18.6	1.41	4	2	4-1/4	05417	05418
M20.4	1.41	4	2	4-15/32	05419	05420
M22.5	1.41	4	2-7/32	4-11/16	05421	05422
M28.3	1.588	6	1-1/2	4	05423	05424
M37	1.588	6	1-1/2	4	05425	05426
M47	1.588	6	2	5	05427	05428
M54	1.588	6	2	5-1/4	05429	05430
M59.3	1.588	6	2	5-1/4	05431	05432

Carbide Tipped Taps

Ground Thread
Bright Finish

Used for materials up to 32Rc.
Not recommended for hard materials.



List No. 2084 Fractional

Recommended for abrasive materials including space age alloys, exotic materials, aluminum and non-ferrous materials. Higher speeds and longer tool life in production applications.

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
7/8	9	4	H4	1-11/32	4-11/16	05433	05434
	14	4	H4	1-11/32	4-11/16	05435	05436
1	8	4	H4	1-1/2	5-1/8	05437	05438
	12	4	H4	1-1/2	5-1/8	05439	05440
1-1/4	7	4	H4	2-17/64	5-3/4	05441	05442
1-3/8	12	4	H4	3	6-1/16	05443	05444
1-1/2	6	4	H4	3	6-3/8	05445	05446



Carbide Pipe Taps Straight Flute

NPS/NPSF
Ground Thread
Bright Finish

Used for materials up to 32Rc.
Not recommended for hard materials.



List No. 2083 Fractional

Recommended for abrasive materials including space age alloys, exotic materials, aluminum and non-ferrous materials. Higher speeds and longer tool life in production applications.

SIZE	PITCH	NO. OF FLUTES	THREAD LENGTH	NECK LENGTH	OAL	NPS EDP NO.	NPSF EDP NO.
1/8	27	4	3/4	0.5000	2-1/8	05309	05473

Carbide Pipe Taps Tapered

NPT/NPTF
Ground Thread
Bright Finish

Used for materials up to 32Rc.
Not recommended for hard materials.



List No. 2083 Fractional

Recommended for abrasive materials including space age alloys, exotic materials, aluminum and non-ferrous materials. Higher speeds and longer tool life in production applications.

SIZE	PITCH	NO. OF FLUTES	THREAD LENGTH	NECK LENGTH	OAL	NPT EDP NO.	NPTF EDP NO.
1/16	27		11/16	0.4400	2-1/8	05474	05475
1/8	27	4	3/4	0.5000	2-1/8	05469	05471
1/4	18	4	5/8	0.3800	2-1/2	05467	05307

Decimal Equivalent Pocket Chart List No. 1005

Tableau décimal Tabla de medidas decimales

NEW LOOK! LARGER SIZE! Decimal Equivalents.
Tap Drill Sizes for inch, metric and pipe threads.
Size: 3 3/8" x 7", Printed on plastic

Pack of 50
EDP No. 20412

Pack of 100
EDP No. 20413



Front



Back

Carbide Taps Straight Flute

Ground Thread – Carbide
Bright Finish



List No. 2083 Machine Screw Fractional Metric

Used for materials up to 32Rc.
Not recommended for hard materials.

Recommended for abrasive materials including space age alloys, exotic materials, aluminum and non-ferrous materials. Higher speeds and longer tool life in production applications.

List No. 2083 Machine Screw

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	NECK LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
#0	80	2	H2	5/16	—	1-5/8	05343	05344
#2	56	2	H2	7/16	—	1-3/4	05357	05358
#4	40	2	H2	5/16	0.2500	1-7/8	05362	05363
	48	2	H2	5/16	0.2500	1-7/8	05364	05365
#5	40	3	H2	5/16	0.3100	1-15/16	05367	05368
#6	32	3	H3	3/8	0.3100	2	05370	05371
	40	3	H2	3/8	0.3100	2	05372	05373
#8	32	4	H3	3/8	0.3800	2-1/8	05375	05376
	36	4	H2	3/8	0.3800	2-1/8	05377	05378
#10	24	4	H3	1/2	0.3800	2-3/8	05347	05348
	32	4	H3	1/2	0.3800	2-3/8	05349	05350
#12	24	4	H3	1/2	0.4400	2-3/8	05353	05354
	28	4	H3	1/2	0.4400	2-3/8	05355	05356

List No. 2083 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	NECK LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
1/4	20	4	H3	5/8	0.3800	2-1/2	05300	05462
	28	4	H3	5/8	0.3800	2-1/2	05302	05464
5/16	18	4	H3	11/16	0.4400	2-23/32	05490	05328
	24	4	H3	11/16	0.4400	2-23/32	05492	05330
3/8	16	4	H3	3/4	0.5000	2-15/16	05318	05482
	24	4	H3	3/4	0.5000	2-15/16	05320	05321
7/16	14	4	H3	7/8	—	3-5/32	05496	05334
	20	4	H3	7/8	—	3-5/32	05498	05336
1/2	13	4	H3	15/16	0.4400	3-3/8	05455	05295
	20	4	H3	15/16	0.4400	3-3/8	05457	05297
9/16	12	4	H3	1	—	3-19/32	05339	05340
	18	4	H3	1	—	3-19/32	05341	05342
5/8	11	4	H3	1-3/32	—	3-13/16	05486	05487
	18	4	H3	1-3/32	—	3-13/16	05325	05489
3/4	10	4	H3	1-7/32	0.6900	4-1/4	05314	05478
	16	4	H3	1-7/32	0.6900	4-1/4	05316	05480

List No. 2083 Metric

SIZE	PITCH	NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	NECK LENGTH	OAL	PLUG EDP NO.	BOTTOM EDP NO.
M3	0.50	3	D3	5/16	0.3100	1-15/16	—	05389
M3.5	0.60	3	D4	3/8	0.3100	2	05391	05392
M4	0.70	4	D4	3/8	0.3800	2-1/8	05394	05395
M4.5	0.75	4	D4	1/2	0.3800	2-1/8	05397	05398
M5	0.80	4	D4	1/2	0.3800	2-1/8	05400	05401
M6	1.00	4	D5	5/8	0.3800	2-1/2	05403	05404
M7	1.00	4	D5	11/16	0.4400	2-23/32	05406	05407
M8	1.25	4	D5	11/16	0.4400	2-23/32	05409	05410
	1.00	4	D5	11/16	0.4400	2-23/32	05411	05412
M10	1.50	4	D6	3/4	0.5000	2-15/16	05379	05380
	1.25	4	D5	3/4	0.5000	2-15/16	05381	05382
M12	1.75	4	D6	15/16	—	3-3/8	05385	05386



Carbide Spiral Point Taps Straight Flute

Ground Thread
Bright Finish



List No. 2083 Machine Screw
Fractional
Metric

Used for materials up to 32Rc.
Not recommended for hard materials.

Recommended for abrasive materials including space age alloys, exotic materials, aluminum and non-ferrous materials. Higher speeds and longer tool life in production applications.

List No. 2083 Machine Screw

SIZE	PITCH	NO. OF FLUTES	PITCH		NECK LENGTH	OAL	EDP NO.
			DIA. LIMIT	THREAD LENGTH			
#2	56	2	H2	7/16	—	1-3/4	05359
#4	40	2	H2	5/16	0.2500	1-7/8	05360
	48	2	H2	5/16	0.2500	1-7/8	05361
#5	40	2	H2	5/16	0.3100	1-15/16	05366
#6	32	2	H3	3/8	0.3100	2	05369
#8	32	2	H3	3/8	0.3800	2-1/8	05374
#10	24	2	H3	1/2	0.3800	2-3/8	05345
	32	2	H3	1/2	0.3800	2-3/8	05346
#12	24	2	H3	1/2	0.4400	2-3/8	05351
	28	2	H3	1/2	0.4400	2-3/8	05352

List No. 2083 Fractional

SIZE	PITCH	NO. OF FLUTES	PITCH		NECK LENGTH	OAL	EDP NO.
			DIA. LIMIT	THREAD LENGTH			
1/4	20	2	H3	5/8	0.3800	2-1/2	05465
	28	2	H3	5/8	0.3800	2-1/2	05305
5/16	18	2	H3	11/16	0.4400	2-23/32	05494
	24	2	H3	11/16	0.4400	2-23/32	05332
3/8	16	3	H3	3/4	0.5000	2-15/16	05322
7/16	14	3	H3	7/8	—	3-5/32	05500
	20	3	H3	7/8	—	3-5/32	05338
1/2	13	3	H3	15/16	0.4400	3-3/8	05459
	20	3	H3	15/16	0.4400	3-3/8	05460

List No. 2083 Metric

SIZE	PITCH	NO. OF FLUTES	PITCH		NECK LENGTH	OAL	EDP NO.
			DIA. LIMIT	THREAD LENGTH			
M3	0.50	2	D3	5/16	0.3100	1-15/16	05388
M3.5	0.60	2	D4	3/8	0.3100	2"	05390
M4	0.70	2	D4	3/8	0.3800	2-1/8	05393
M4.5	0.75	2	D4	1/2	0.3800	2-1/8	05396
M5	0.80	2	D4	1/2	0.3800	2-1/8	05399
M6	1.00	2	D5	5/8	0.3800	2-1/2	05402
M7	1.00	2	D5	11/16	0.4400	2-23/32	05405
M8	1.25	2	D5	11/16	0.4400	2-23/32	05408
M10	1.50	3	D6	3/4	0.5000	2-15/16	05383
	1.25	3	D5	3/4	0.5000	2-15/16	05384
M12	1.75	3	D6	15/16	—	3-3/8	05387

Standard Taps Cutting Speeds

Workpiece Material	Brinell Hardness (BHN)	Surface Speed (SFM)
Low Carbon Steel - 1018, 12L12, 1108, 1213	≤ 120	65
Low & Medium Carbon Steel - 1018, 1551, 11L44	120 - 250	40
Medium Carbon and Alloyed Steel - 1040, 1140, 4340, 8640	≤ 250	40
Tool and Die Steels - P20, A2, D2, H12	≤ 250	20
Tool and Die Steels - P20, A2, D2, H12	250 - 350	15
Free Machining Stainless Steels - 303, 410, 416, 440F	≤ 260	35
Moderate Machining Stainless Steels - 304, 316	≤ 300	25
Difficult Machining Stainless Steels - 17-4PH, 316L, AM350	≤ 300	10
Cast Iron - Soft Gray	≤ 160	70
Cast Iron - Gray	160 - 260	60
Cast Iron - Ductile	250	50
Cast Iron - Malleable	250 - 330	35
Titanium Alloys - Commercially Pure 99.0	110 - 170	20
Titanium Alloys - Ti-6Al-4V, ASTM B367 Grades C-3, C-4	≤ 250	15
High Temperature Alloys - Inconel, Hastelloy, Waspaloy	≤ 150	25
High Temperature Alloys - Inconel, Hastelloy, Waspaloy	150 - 250	10
Aluminum Alloys - 2025, 6061, A140, 514.0	≤ 150	100
Copper Alloys - Brass and Bronze	≤ 200	50
Magnesium Alloys - AZ80A, HM12A, AM60A, ZE41A	50 - 90	70

SPEEDS shown are suggested starting points only and may be increased or decreased depending on actual material and machining conditions. Start conservatively and increase until the machining cycle is optimized.

TAP SPEEDS may be **increased** for coated taps, spiral point taps, fine pitch taps and when the percentage of thread is decreased.

TAP SPEEDS may need to be **decreased** for uncoated taps, spiral flute taps, coarse pitch taps, bottoming taps, difficult materials, longer thread lengths, and when the percentage of thread is increased.

THREAD FORMING TAPS generally form threads more efficiently at higher speeds. Suggested speeds are 50% to 100% higher than the suggested speeds for cutting taps in similar applications.

PIPE TAP SPEEDS should be between one-half and three-quarters of the speeds of taps of comparable diameter and pitch.

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Tap Drill Sizes – STI (Screw Thread Insert) Taps

STI TAP SIZE	ALUMINUM		STEEL, PLASTIC, MAGNESIUM		MINOR DIA. LIMITS (AFTER TAPPING)	
	TAP DRILL SIZE	DECIMAL EQUIV. OF TAP DRILL (INCHES)	TAP DRILL SIZE	DECIMAL EQUIV. OF TAP DRILL (INCHES)	MIN.	MAX.
2 - 56	3/32	.0938	#41	.0960	.0899	.0961
4 - 40	#31	.1200	#31	.1200	.1175	.1252
5 - 40	3.4mm	.1339	#29	.1360	.1305	.1373
6 - 32	#26	.1470	#25	.1495	.1448	.1527
6 - 40	#26	.1470	#25	.1495	.1435	.1503
8 - 32	#17	.1730	#16	.1770	.1708	.1781
10 - 24	13/64	.2031	#5	.2055	.1990	.2080
10 - 32	#7	.2010	13/64	.2031	.1968	.2041
12 - 24	#1	.2280	#1	.2280	.2250	.2340
1/4 - 20	H	.2660	H	.2660	.2608	.2704
1/4 - 28	G	.2610	6.7mm	.2638	.2577	.2646
5/16 - 18	Q	.3320	Q	.3320	.3245	.3342
5/16 - 24	21/64	.3281	21/64	.3281	.3215	.3288
3/8 - 16	X	.3970	X	.3970	.3885	.3987
3/8 - 24	25/64	.3906	25/64	.3906	.3840	.3910
7/16 - 14	29/64	.4531	29/64	.4531	.4530	.4639
7/16 - 20	29/64	.4531	29/64	.4531	.4483	.4561
1/2 - 13	33/64	.5156	17/32	.5312	.5166	.5273
1/2 - 20	33/64	.5156	33/64	.5156	.5108	.5186

Recommended tap drill sizes may vary slightly from recommended minor diameter limits to enable use of standard stock drill sizes. This variance does not cause any issues in most applications.

Drill sizes shown for steel, plastic and magnesium are such as to allow for material contraction in softer materials and to provide increased tap life. Variations in material and equipment may require the use of drills which are larger or smaller than those recommended.

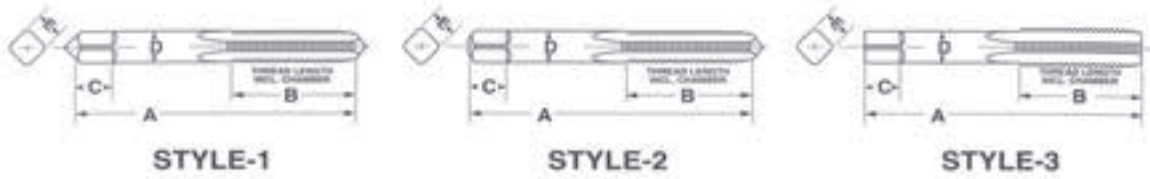
Threads produced should be checked with thread plug gages to ensure that the threads meet required specifications.

NOTE: Information in this chart is for reference only. We will not be held liable for any consequential damages or economic loss due to the use of information contained within this chart.

Tapping Formulas

Formula for Obtaining Tap Drill Sizes for Cutting Taps:						
Major Dia. of Thread	-	$\frac{.01299 \times \text{Amt. of percentage of full thread}}{\text{No. of threads per inch}}$			=	Drilled Hole* Size
Note: Select nearest commercial stock drill.						
Percentage of Full Thread for Other Drill Sizes						
No. of Threads per Inch	x	$\frac{\text{Major Dia. Selected of Thread} - \text{Drill Dia.}}{.01299}$			=	Percentage of Full Thread
Formula For Obtaining Tap Drill Sizes For Thread Forming Taps:						
*Drill Hole Size (inches)	=	Basic Major Dia. of thread (inches)	-	.0068	x	$\frac{\text{Percentage of Full Thread}}{\text{No. of Threads per Inch}}$
*Drilled Hole Size (mm)	=	Basic Major Dia. of thread (mm)	-	$\frac{\text{Percentage of Full Thread X mm Pitch}}{147.06}$		
*Note: Drill size should be smaller than hole size by the probable amount the drill will cut oversize.						

Table 302 — Hand Taps



General Dimensions

NOMINAL DIA. RANGE-INCHES		MACHINE SCREW SIZE NO.	NOMINAL FRACTIONAL DIAMETER (INCHES)	NOMINAL METRIC DIAMETER (MM)	STYLE	TAP DIMENSIONS — INCHES				
						LENGTH OVERALL A	THREAD LENGTH B	SQUARE LENGTH C	SHANK DIAMETER D	SIZE OF SQUARE E
.052	.065	0	1/16	M1.6	1	1 5/8	5/16	3/16	.141	.110
.065	.078	1	—	M1.8	1	1 11/16	3/8	3/16	.141	.110
.078	.091	2	—	M2, M2.2	1	1 3/4	7/16	3/16	.141	.110
.091	.104	3	3/32	M2.5	1	1 13/16	1/2	3/16	.141	.110
.104	.117	4	—	—	1	1 7/8	9/16	3/16	.141	.110
.117	.130	5	1/8	M3, M3.15	1	1 15/16	5/8	3/16	.141	.110
.130	.145	6	—	M3.5	1	2	1 1/16	3/16	.141	.110
.145	.171	8	5/32	M4	1	2 1/8	3/4	1/4	.168	.131
.171	.197	10	3/16	M4.5, M5	1	2 3/8	7/8	1/4	.194	.152
.197	.223	12	7/32	—	1	2 3/8	15/16	9/32	.220	.165
.223	.260	14	1/4	M6, M6.3	2	2 1/2	1	5/16	.255	.191
.260	.323		5/16	M7, M8	2	2 23/32	1 1/8	3/8	.318	.238
.323	.395		3/8	M10	2	2 15/16	1 1/4	7/16	.381	.286
.395	.448		7/16	—	3	3 5/32	1 7/16	13/32	.323	.242
.448	.510		1/2	M12, M12.5	3	3 3/8	1 21/32	7/16	.367	.275
.510	.573		9/16	M14	3	3 19/32	1 21/32	1/2	.429	.322
.573	.635		5/8	M16	3	3 13/16	1 13/16	9/16	.480	.360
.635	.709		1 1/16	M18	3	4 1/32	1 13/16	5/8	.542	.406
.709	.760		3/4	—	3	4 1/4	2	1 1/16	.590	.442
.760	.823		13/16	M20	3	4 15/32	2	1 1/16	.652	.489
.823	.885		7/8	M22	3	4 11/16	2 7/32	3/4	.697	.523
.885	.948		15/16	M24	3	4 29/32	2 7/32	3/4	.760	.570
.948	1.010		1	M25	3	5 1/8	2 1/2	13/16	.800	.600
1.010	1.073		1 1/16	M27	3	5 1/8	2 1/2	7/8	.896	.672
1.073	1.135		1 1/8	—	3	5 7/16	2 9/16	7/8	.896	.672
1.135	1.198		1 3/16	M30	3	5 7/16	2 9/16	1	1.021	.766
1.198	1.260		1 1/4	—	3	5 3/4	2 9/16	1	1.021	.766
1.260	1.323		1 5/16	M33	3	5 3/4	2 9/16	1 1/16	1.108	.831
1.323	1.385		1 3/8	—	3	6 1/16	3	1 1/16	1.108	.831
1.385	1.448		1 7/16	M36	3	6 1/16	3	1 1/8	1.233	.925
1.448	1.510		1 1/2	—	3	6 3/8	3	1 1/8	1.233	.925
1.510	1.635		1 5/8	M39	3	6 11/16	3 3/16	1 1/8	1.305	.979
1.635	1.760		1 3/4	M42	3	7	3 3/16	1 1/4	1.430	1.072
1.760	1.885		1 7/8	—	3	7 5/16	3 9/16	1 1/4	1.519	1.139
1.885	2.010		2	M48	3	7 5/8	3 9/16	1 3/8	1.644	1.233
2.010	2.135		2 1/8	—	3	8	3 9/16	1 3/8	1.769	1.327
2.135	2.260		2 1/4	M56	3	8 1/4	3 9/16	1 7/16	1.894	1.420
2.260	2.385		2 3/8	—	3	8 1/2	4	1 7/16	2.019	1.514
2.385	2.510		2 1/2	—	3	8 3/4	4	1 1/2	2.100	1.575
2.510	2.635		2 5/8	M64	3	8 3/4	4	1 1/2	2.225	1.669
2.635	2.760		2 3/4	—	3	9 1/4	4	1 9/16	2.350	1.762
2.760	2.885		2 7/8	M72	3	9 1/4	4	1 9/16	2.475	1.856

(continued)



Table 302 — Hand Taps (continued)

General Dimensions

NOMINAL DIA. RANGE-INCHES		MACHINE SCREW SIZE NO.	NOMINAL FRACTIONAL DIAMETER (INCHES)	NOMINAL METRIC DIAMETER (MM)	STYLE	TAP DIMENSIONS —INCHES				
						LENGTH OVERALL A	THREAD LENGTH B	SQUARE LENGTH C	SHANK DIAMETER D	SIZE OF SQUARE E
2.885	3.010		3	—	3	9/4	4 ⁹ / ₁₆	1 ⁵ / ₈	2.543	1.907
3.010	3.135		3 ¹ / ₈	—	3	9/4	4 ⁹ / ₁₆	1 ⁵ / ₈	2.668	2.001
3.135	3.260		3 ¹ / ₄	M80	3	10	4 ⁹ / ₁₆	1 ³ / ₄	2.793	2.095
3.260	3.385		3 ³ / ₈	—	3	10	4 ⁹ / ₁₆	1 ³ / ₄	2.883	2.162
3.385	3.510		3 ¹ / ₂	—	3	10 ¹ / ₄	4 ¹⁵ / ₁₆	2	3.008	2.256
3.510	3.635		3 ⁵ / ₈	M90	3	10 ¹ / ₄	4 ¹⁵ / ₁₆	2	3.133	2.350
3.635	3.760		3 ³ / ₄	—	3	10 ¹ / ₂	5 ⁵ / ₁₆	2 ¹ / ₈	3.217	2.413
3.760	3.885		3 ⁷ / ₈	—	3	10 ¹ / ₂	5 ⁵ / ₁₆	2 ¹ / ₈	3.342	2.506
3.885	4.010		4	M100	3	10 ³ / ₄	5 ⁵ / ₁₆	2 ¹ / ₄	3.467	2.600

Tolerances

ELEMENT	NOMINAL DIAMETER RANGE —INCHES		DIRECTION	TOLERANCE — INCHES
	OVER	TO (Incl.)		
Length Overall — A	.052	1.010	Plus or Minus	1/32
	1.010	4.010	Plus or Minus	1/16
Length of Thread — B	.052	.223	Plus or Minus	3/64
	.223	.510	Plus or Minus	1/16
	.510	1.510	Plus or Minus	3/32
	1.510	4.010	Plus or Minus	1/8
Length of Square — C	.052	1.010	Plus or Minus	1/32
	1.010	4.010	Plus or Minus	1/16
Diameter of Shank — D	.052	.223	Minus	.0015
	.223	.635	Minus	.0015
	.635	1.010	Minus	.002
	1.010	1.510	Minus	.002
	1.510	2.010	Minus	.003
	2.010	4.010	Minus	.003
Size of Square — E	.052	.510	Minus	.004
	.510	1.010	Minus	.006
	1.010	2.010	Minus	.008
	2.010	4.010	Minus	.010

Special Taps

Unless otherwise specified:

Special taps over 1.010" to 1.510" diameter inclusive, having 14 or more threads per inch or 1.75 millimeter pitch and finer, and sizes over 1.510" diameter with 10 or more threads per inch or 2.5 millimeter pitch and finer, are made to general dimensions shown in Table 303.

Special ground thread taps are made to limits shown in Table 331 for Unified Inch Screw Threads and Table 341 for Metric M-Profile Screw Threads.

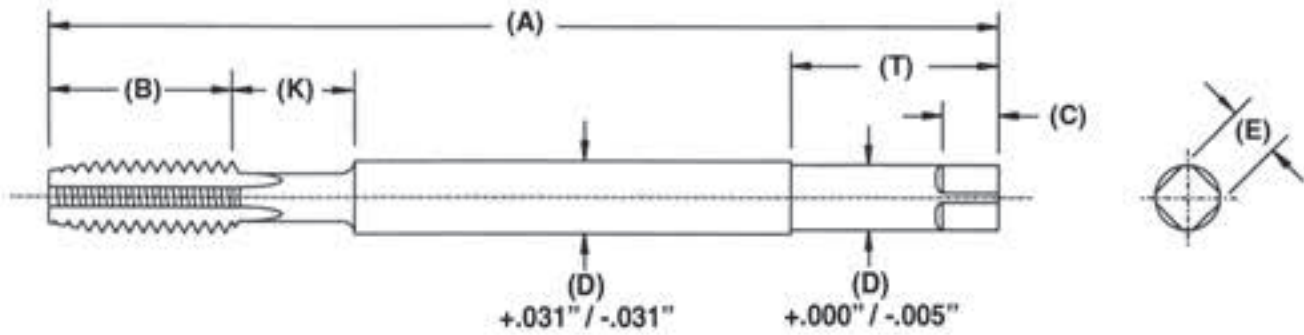
Notes

Ground thread taps, sizes .395" and smaller, have external center on thread end (may be removed on bottoming taps). Sizes .223" and smaller have external center on shank end; sizes .224" thru .395" have truncated partial cone centers on shank end (length of cone approximately 1/4 of diameter shank). Sizes over .395" have internal center in thread and shank ends.

For standard thread limits and tolerances for Unified Inch Screw Threads see Table 327 and for Metric Threads see Table 337.

For eccentricity tolerances of tap elements see Table 317.

Table 310 — Pulley Taps



General Dimensions

DIAMETER OF TAP INCHES	DIMENSIONS - INCHES						
	LENGTH OVERALL A	LENGTH OF THREAD B	LENGTH OF SQUARE C	DIA. OF SHANK D	LENGTH OF CLOSE TOLERANCE T*	SIZE OF SQUARE E	LENGTH OF NECK K**
1/4	6, 8	1	5/16	.255	1 1/2	.191	3/8
5/16	6, 8	1 1/8	3/8	.318	1 9/16	.238	3/8
3/8	6, 8, 10	1 1/4	7/16	.381	1 5/8	.286	3/8
7/16	6, 8	1 7/16	1/2	.444	1 11/16	.333	7/16
1/2	6, 8, 10, 12	1 21/32	9/16	.507	1 11/16	.380	1/2
5/8	6, 8, 10, 12	1 13/16	1 1/16	.633	2	.475	5/8
3/4	10, 12	2	3/4	.759	2 1/4	.569	3/4

Tolerances

ELEMENT	RANGE	DIRECTION	TOLERANCE
Length Overall — A	1/4" to 3/4" incl.	Plus or Minus	1/16"
Length of Thread — B	1/4" to 3/4" incl.	Plus or Minus	1/16"
Length of Square — C	1/4" to 3/4" incl.	Plus or Minus	1/32"
Diameter of Shank — D	1/4" to 3/4" incl.	Minus	.005"
Size of Square — E	1/4" to 1/2" incl.	Minus	.004"
	5/8" to 3/4" incl.	Minus	.006"

Formulae (Approximate)

Diameter of Shank "D" = Maximum Major Diameter.

Size of Square = Diameter of Shank "D" x .75 to nearest .001"

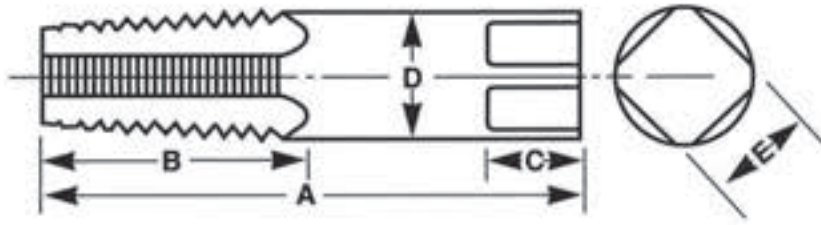
Notes

*T is minimum length of shank which is held to eccentricity tolerances.

**K (neck and its length) is optional with manufacturer.



Table 311 — Pipe Taps



General Dimensions

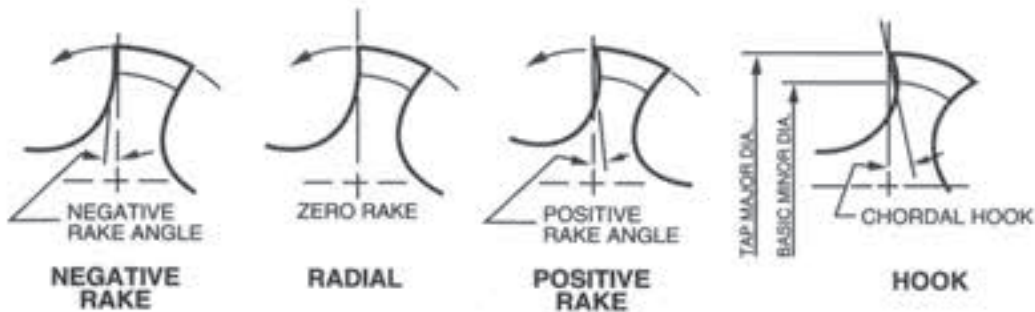
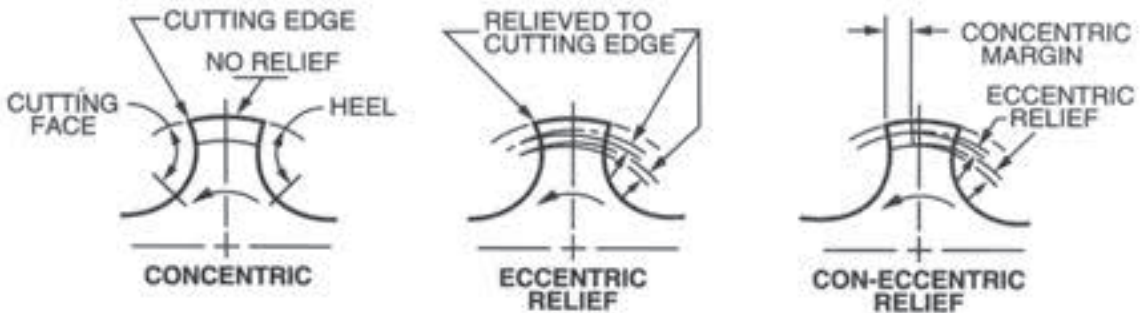
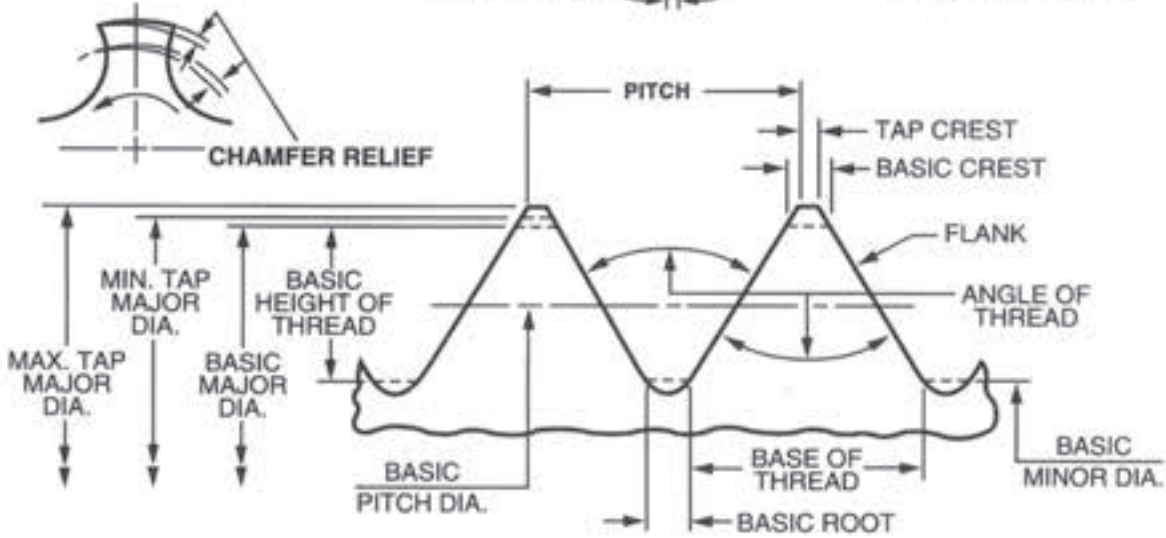
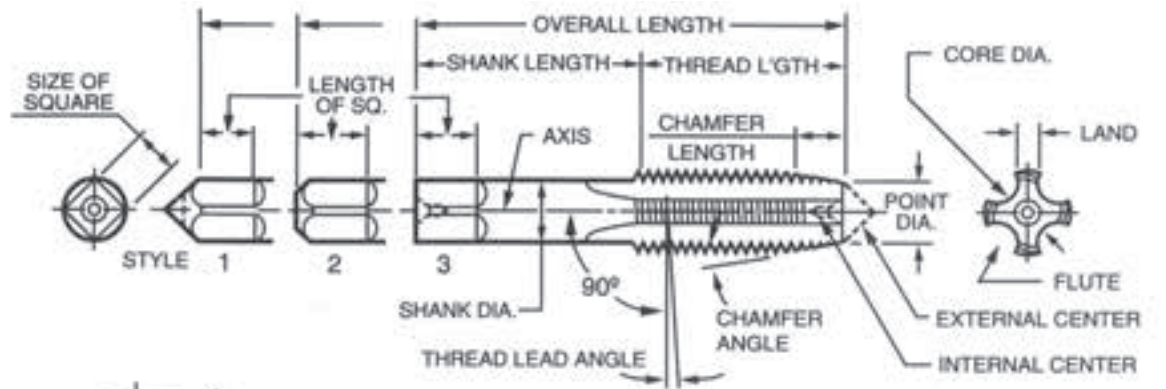
NOMINAL SIZE INCHES	DIMENSIONS - INCHES				
	LENGTH OVERALL A	LENGTH OF THREAD B	LENGTH OF SQUARE C	DIA. OF SHANK D	SIZE OF SQUARE E
1/16	2 1/8	1 1/16	3/8	.3125	.234
1/8	2 1/8	3/4	3/8	.3125	.234
1/8	2 1/8	3/4	3/8	.4375	.328
1/4	2 7/16	1 1/16	7/16	.5625	.421
3/8	2 9/16	1 1/16	1/2	.7000	.531
1/2	3 1/8	1 3/8	5/8	.6875	.515
3/4	3 1/4	1 3/8	1 1/16	.9063	.679
1	3 3/4	1 3/4	1 3/16	1.1250	.843
1 1/4	4	1 3/4	1 5/16	1.3125	.984
1 1/2	4 1/4	1 3/4	1	1.5000	1.125
2	4 1/2	1 3/4	1 1/8	1.8750	1.406
2 1/2	5 1/2	2 9/16	1 1/4	2.2500	1.687
3	6	2 5/8	1 3/8	2.6250	1.968
3 1/2	6 1/2	2 11/16	1 1/2	2.8125	2.108
4	6 3/4	2 3/4	1 5/8	3.0000	2.250

Tolerances

ELEMENT	RANGE	DIRECTION	TOLERANCE
Length Overall — A	1/16" to 3/4" incl.	Plus or Minus	1/32"
	1" to 4" incl.	Plus or Minus	1/16"
Length of Thread — B	1/16" to 3/4" incl.	Plus or Minus	1/16"
	1" to 1 1/4" incl.	Plus or Minus	3/32"
	1 1/2" to 4" incl.	Plus or Minus	1/8"
Length of Square — C	1/16" to 3/4" incl.	Plus or Minus	1/32"
	1" to 4" incl.	Plus or Minus	1/16"
Diameter of Shank — D	1/16" to 1/8" incl.	Minus	.0015"
	1/4" to 1/2" incl.	Minus	.0020"
	3/4" to 1" incl.	Minus	.0020"
	1 1/4" to 4" incl.	Minus	.0030"
Size of Square — E	1/16" to 1/8" incl.	Minus	.0040"
	1/4" to 3/4" incl.	Minus	.0060"
	1" to 4" incl.	Minus	.0080"

<p>USEFUL FORMULAS</p> <p>Surface Feet Per Minute = SFM</p> <p>Revolutions Per Minute = RPM</p> <p>Threads Per Inch = TPI</p> <p>Pitch = P</p> <p>Inches Per Minute = IPM</p>	<p>When TPI is known</p> <p>P = 1 ÷ TPI</p>	<p>When SFM and DIA are known:</p> <p>RPM = 3.82 x SFM ÷ DIA</p> <p>When RPM and P are known:</p> <p>IPM = RPM x P</p>
--	--	--

Tap Terminology



TOOL COATINGS

Tool Coatings enhance cutting tool performance for increased productivity and lower overall tooling cost. Benefits include increased surface hardness, lubricity & heat resistance and decreased chemical reactivity. Results include reduced friction & torque, higher speeds & feeds, increased tool life, decreased galling & chip welding and improved surface finish.

TiN - Titanium Nitride

A good general purpose coating for a wide range of ferrous materials. Not recommended for non-ferrous materials. Has higher heat resistance than TiCN coating.

TiCN - Titanium Carbonitride

Enhanced toughness, hardness & wear resistance for aggressive speeds & feeds. Recommended for difficult-to-machine, gummy & abrasive materials where moderate cutting temperatures are generated.

TiALN - Titanium Aluminum Nitride

ALTiN - Aluminum Titanium Nitride

Excellent all around coatings featuring high heat resistance. Recommended for high thermal stress applications including dry machining, abrasive materials and hard-to-machine materials that generate higher cutting temperatures. ALTiN has higher AL content for increased hardness & heat resistance.

CrN - Chromium Nitride

CrC - Chromium Carbide

Especially recommended for titanium and non-ferrous materials including aluminum, copper & brass. CrC has slightly higher hardness than CrN. These coatings resist adhesion of the material being machined and resist chipping and cracking.

DLC - Diamond Like Carbon

A thin carbon based amorphous (non-crystalline) coating featuring very high hardness & low coefficient of friction. Highly recommended for non-ferrous materials including plastic, aluminum, copper & brass. Typically used on solid carbide tools.

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Hole Diameters for Tapping

UNIFIED THREADS			METRIC THREADS		
TAP SIZE	CUTTING TAPS Based on 75% Thread (in.)	FORMING TAPS Based on 65% Thread (in.)	TAP SIZE	CUTTING TAPS Based on 75% Thread (in.)	FORMING TAPS Based on 65% Thread (in.)
0-80	0.0478"	0.0545"	M1.6 X 0.35	0.0496"	0.0569"
1-64	0.0578"	0.0661"	M1.8 X 0.35	0.0574"	0.0648"
1-72	0.0595"	0.0669"	M2 X 0.4	0.0634"	0.0718"
2-56	0.0686"	0.0781"	M2.2 X 0.45	0.0694"	0.0788"
2-64	0.0708"	0.0791"	M2.5 X 0.45	0.0812"	0.0906"
3-48	0.0787"	0.0898"	M3 X 0.5	0.0989"	0.1094"
3-56	0.0816"	0.0911"	M3.5 X 0.6	0.1148"	0.1274"
4-40	0.0876"	0.1010"	M4 X 0.7	0.1306"	0.1453"
4-48	0.0917"	0.1028"	M4.5 X 0.75	0.1484"	0.1641"
5-40	0.1006"	0.1140"	M5 X 0.8	0.1662"	0.1829"
5-44	0.1029"	0.1150"	M6 X 1.0	0.1979"	0.2188"
6-32	0.1076"	0.1242"	M7 X 1.0	0.2372"	0.2582"
6-40	0.1136"	0.1270"	M8 X 1.25	0.2670"	0.2932"
8-32	0.1336"	0.1502"	M8 X 1.0	0.2766"	0.2976"
8-36	0.1369"	0.1517"	M10 X 1.5	0.3362"	0.3676"
10-24	0.1494"	0.1716"	M10 X 1.25	0.3458"	0.3719"
10-32	0.1596"	0.1762"	M12 X 1.75	0.4053"	0.4420"
12-24	0.1754"	0.1976"	M12 X 1.25	0.4245"	0.4507"
12-28	0.1812"	0.2002"	M14 X 2.0	0.4745"	0.5164"
1/4-20	0.2013"	0.2279"	M14 X 1.5	0.4936"	0.5251"
1/4-28	0.2152"	0.2342"	M16 X 2.0	0.5532"	0.5951"
5/16-18	0.2584"	0.2879"	M16 X 1.5	0.5724"	0.6038"
5/16-24	0.2719"	0.2941"	M18 X 2.5	0.6128"	0.6652"
3/8-16	0.3141"	0.3474"	M18 X 1.5	0.6511"	0.6826"
3/8-24	0.3344"	0.3566"	M20 X 2.5	0.6915"	0.7439"
7/16-14	0.3679"	0.4059"	M20 X 1.5	0.7299"	0.7613"
7/16-20	0.3888"	0.4154"	M22 X 2.5	0.7702"	0.8226"
1/2-13	0.4251"	0.4660"	M22 X 1.5	0.8086"	0.8400"
1/2-20	0.4513"	0.4779"	M24 X 3.0	0.8298"	0.8927"
9/16-12	0.4813"	0.5257"	M24 X 2.0	0.8682"	
9/16-18	0.5084"	0.5379"	M27 X 3.0	0.9479"	
5/8-11	0.5364"	0.5848"	M27 X 2.0	0.9863"	
5/8-18	0.5709"	0.6004"	M30 X 3.5	1.0469"	
3/4-10	0.6526"	0.7058"	M30 X 2.0	1.1044"	
3/4-16	0.6891"	0.7224"	M33 X 3.5	1.1650"	
7/8-9	0.7668"		M33 X 2.0	1.2225"	
7/8-14	0.8054"		M36 X 4.0	1.2639"	
1-8	0.8782"		M36 X 3.0	1.3023"	
1-12	0.9188"		M39 X 4.0	1.3820"	
1-14	0.9304"		M39 X 3.0	1.4204"	

Pipe Taps

TAP SIZE	NPT** HOLE SIZE	NPTF** HOLE SIZE	NPS HOLE SIZE	NPSF HOLE SIZE
1/16	0.2460"	0.2420"	0.2500"	0.2460"
1/8	0.3390"	0.3320"	0.3438"	0.3390"
1/4	0.4375"	0.4375"	0.4375"	0.4375"
3/8	0.5781"	0.5625"	0.5781"	0.5781"
1/2	0.7031"	0.7031"	0.7188"	0.7188"
3/4	0.9063"	0.9063"	0.9375"	0.9219"
1	1.1406"	1.1406"	1.1719"	1.1563"
1-1/4	1.4844"	1.4844"	1.5156"	
1-1/2	1.7344"	1.7344"	1.7500"	
2	2.2031"	2.1875"	2.2187"	
2-1/2	2.6250"	2.6250"	2.6563"	
3	3.2500"	3.2500"		

**For tapping without reaming

NOTE: Information in this chart is for reference only. We will not be held liable for any consequential damages or economic loss due to the use of information contained within this chart.



Standard Taps

Class of Fit Recommendations

These tap recommendations will produce the specified class of fit in most applications. Threads produced should be checked with thread plug gages to ensure that the threads meet required specifications. Threads that gage loose or tight may require experimentation with taps of lower or higher pitch diameter limit ("H" or "D" number).

Unified and American National Screw Threads							
Nominal Size	Threads Per Inch		Recommended Tap for Class of Thread		Pitch Diameter Limits for Class of Thread		
	UNC	UNF	Class 2B	Class 3B	Minimum (Basic)	Maximum Class 2B	Maximum Class 3B
0	—	80	H2	H1	.0519	.0542	.0536
1	64	—	H2	H1	.0629	.0655	.0648
1	—	72	H2	H1	.0640	.0665	.0659
2	56	—	H2	H1	.0744	.0772	.0765
2	—	64	H2	H1	.0759	.0786	.0779
3	48	—	H2	H1	.0855	.0885	.0877
3	—	56	H2	H1	.0874	.0902	.0895
4	40	—	H2	H2	.0958	.0991	.0982
4	—	48	H2	H1	.0985	.1016	.1008
5	40	—	H2	H2	.1088	.1121	.1113
5	—	44	H2	H1	.1102	.1134	.1126
6	32	—	H3	H2	.1177	.1214	.1204
6	—	40	H2	H2	.1218	.1252	.1243
8	32	—	H3	H2	.1437	.1475	.1465
8	—	36	H2	H2	.1460	.1496	.1487
10	24	—	H3	H3	.1629	.1672	.1661
10	—	32	H3	H2	.1697	.1736	.1726
12	24	—	H3	H3	.1889	.1933	.1922
12	—	28	H3	H3	.1928	.1970	.1959
1/4	20	—	H5	H3	.2175	.2224	.2211
1/4	—	28	H4	H3	.2268	.2311	.2300
5/16	18	—	H5	H3	.2764	.2817	.2803
5/16	—	24	H4	H3	.2854	.2902	.2890
3/8	16	—	H5	H3	.3344	.3401	.3387
3/8	—	24	H4	H3	.3479	.3528	.3516
7/16	14	—	H5	H3	.3911	.3972	.3957
7/16	—	20	H5	H3	.4050	.4104	.4091
1/2	13	—	H5	H3	.4500	.4565	.4548
1/2	—	20	H5	H3	.4675	.4731	.4717
9/16	12	—	H5	H3	.5084	.5152	.5135
9/16	—	18	H5	H3	.5264	.5323	.5308
5/8	11	—	H5	H3	.5660	.5732	.5714
5/8	—	18	H5	H3	.5889	.5949	.5934
3/4	10	—	H5	H3	.6850	.6927	.6907
3/4	—	16	H5	H3	.7094	.7159	.7143
7/8	9	—	H6	H4	.8028	.8110	.8089
7/8	—	14	H6	H4	.8286	.8356	.8339
1	8	—	H6	H4	.9188	.9276	.9254
1	—	12	H6	H4	.9459	.9535	.9516
1	—	14*	H6	H4	.9536	.9609	.9590
1 1/8	7	—	H8	H4	1.0322	1.0416	1.0393
1 1/8	—	12	H6	H4	1.0709	1.0787	1.0768
1 1/4	7	—	H8	H4	1.1572	1.1668	1.1644
1 1/4	—	12	H6	H4	1.1959	1.2039	1.2019
1 3/8	6	—	H8	H4	1.2667	1.2771	1.2745
1 3/8	—	12	H6	H4	1.3209	1.3291	1.3270
1 1/2	6	—	H8	H4	1.3917	1.4022	1.3996
1 1/2	—	12	H6	H4	1.4459	1.4542	1.4522

*UNS

Standard Metric Taps

Class of Fit Recommendations

These tap recommendations will produce the specified class of fit in most applications. Threads produced should be checked with thread plug gages to ensure that the threads meet required specifications. Threads that gage loose or tight may require experimentation with taps of lower or higher pitch diameter limit ("H" or "D" number).

Metric Threads						
Size mm	Pitch mm	Recommended Tap for Class of Thread		Pitch Diameter Limits for Class of Thread		
		Class 4H	Class 6H	Minimum (Basic)	Maximum Class 4H	Maximum Class 6H
M1.6	0.35	D1	D3	1.373	1.426	1.458
M1.8	0.35	D1	D3	1.573	1.626	1.658
M2	0.4	D1	D3	1.740	1.796	1.830
M2.2	0.45	D1	D3	1.908	1.968	2.003
M2.5	0.45	D1	D3	2.208	2.268	2.303
M2.6	0.45	D1	D2	2.308	2.368	2.403
M3	0.5	D1	D3	2.675	2.738	2.775
M3.5	0.6	D1	D4	3.110	3.181	3.222
M4	0.75	D2	D3	3.513	3.588	3.631
M4	0.7	D2	D4	3.545	3.620	3.663
M4.5	0.75	D2	D4	4.013	4.088	4.131
M5	0.9	D2	D3	4.415	4.501	4.549
M5	0.8	D2	D4	4.480	4.560	4.605
M5.5	0.9	D2	D3	4.915	5.002	5.050
M6	1	D3	D5	5.350	5.445	5.500
M6	0.75	D3	D4	5.513	5.598	5.645
M7	1	D3	D5	6.350	6.445	6.500
M8	1.25	D3	D5	7.188	7.288	7.348
M8	1	D3	D5	7.350	7.445	7.500
M9	1.25	D3	D5	8.188	8.288	8.348
M9	1	D3	D5	8.350	8.445	8.500
M10	1.5	D3	D6	9.026	9.138	9.206
M10	1.25	D3	D5	9.188	9.288	9.348
M10	1	D3	D5	9.350	9.445	9.500
M11	1.5	D3	D5	10.026	10.138	10.206
M12	1.75	D3	D6	10.863	10.988	11.063
M12	1.5	D3	D6	11.026	11.144	11.216
M12	1.25	D3	D5	11.188	11.300	11.368
M14	2	D3	D7	12.701	12.833	12.913
M14	1.5	D3	D6	13.026	13.144	13.216
M14	1.25	D3	D5	13.188	13.300	13.368
M16	2	D4	D7	14.701	14.833	14.913
M16	1.5	D3	D6	15.026	15.144	15.216
M18	2.5	D4	D7	16.376	16.516	16.600
M18	1.5	D3	D6	17.026	17.144	17.216
M20	2.5	D4	D7	18.376	18.516	18.600
M20	1.5	D3	D6	19.026	19.144	19.216
M22	2.5	D4	D7	20.376	20.516	20.600
M22	1.5	D3	D6	21.026	21.144	21.216
M24	3	D4	D8	22.051	22.221	22.316
M24	2	D4	D7	22.701	22.841	22.925
M24	1.5	D3	D5	23.026	23.151	23.226
M25	1.5	D3	D5	24.026	24.151	24.226
M27	3	D5	D8	25.051	25.221	25.316
M27	2	D5	D7	25.701	25.841	25.925
M30	3.5	D5	D9	27.727	27.907	28.007
M30	2	D5	D7	28.701	28.841	28.925
M32	2	D5	D7	30.701	30.841	30.925
M33	3.5	D5	D9	30.727	30.907	31.007
M33	2	D5	D7	31.701	31.841	31.925
M36	4	D5	D9	33.402	33.592	33.702
M36	3	D5	D8	34.051	34.221	34.316
M36	2	D5	D7	34.701	34.841	34.925
M39	4	D6	D9	36.402	36.592	36.702
M39	3	D6	D8	37.051	37.221	37.316



Fluteless Thread Forming Taps

Class of Fit Recommendations

These tap recommendations will produce the specified class of fit in most applications. Threads produced should be checked with thread plug gages to ensure that the threads meet required specifications. Threads that gage loose or tight may require experimentation with taps of lower or higher pitch diameter limit ("H" or "D" number).

Machine Screw & Fractional

SIZE	THREADS PER INCH		"H" LIMIT for CLASS of FIT		
	UNC	UNF	2	2B	3B
0	80	—	H2	H3	H2
1	64	—	H2	H3	H2
	—	72	H2	H3	H2
2	56	—	H2	H3	H2
	—	64	H2	H3	H2
3	48	—	H2	H3	H2
	—	56	H2	H3	H2
4	40	—	H3	H5	H3
	—	48	H3	H5	H3
5	40	—	H3	H5	H3
	—	44	H3	H5	H3
6	32	—	H3	H5	H3
	—	40	H3	H5	H3
8	32	—	H3	H5	H3
	—	36	H3	H5	H3
10	24	—	H4	H6	H4
	—	32	H4	H6	H4
12	24	—	H4	H6	H4
	—	28	H4	H6	H4
1/4	20	—	H4	H6	H4
	—	28	H4	H6	H4
5/16	18	—	H5	H7	H5
	—	24	H5	H7	H5
3/8	16	—	H5	H7	H5
	—	24	H5	H7	H5
7/16	14	—	H5	H8	H5
	—	20	H5	H8	H5
1/2	13	—	H5	H8	H5
	—	20	H5	H8	H5
9/16	12	—	H7	H10	H7
	—	18	H7	H10	H7
5/8	11	—	H7	H10	H7
	—	18	H7	H10	H7
3/4	10	—	H7	H10	H7
	—	16	H7	H10	H7

Metric

SIZE	PITCH	"D" LIMIT for CLASS of FIT	
		4H	6H
M3	0.5	D3	D5
M4	0.7	D4	D6
M5	0.8	D4	D7
M6	1	D5	D8
M8	1.25	D5	D9
M10	1.5	D6	D10
M12	1.75	D6	D11
M14	2	D7	D11
M16	2	D7	D12
M20	2.5	D7	D12

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