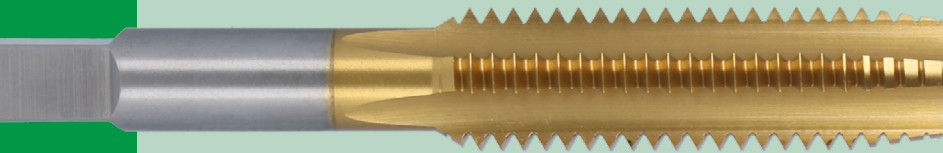


**GREENFIELD
THREADING**



Taps And Dies



Make it Easy!
Download
our Catalog



**MADE
IN THE
U.S.A.**



**GREENFIELD
INDUSTRIES**



Greenfield Industries' tradition of excellence has stood the test of time. Since 1834 the mission remains the same, provide the highest quality cutting tools at the greatest value possible.

Greenfield Industries' centuries old dedication to our customers is continuing with Greenfield Threading, combining our brand with Vermont Tap & Die, creating a commitment of high-quality taps and dies. This provides you, our customer, confidence that you are receiving the quality and reliability you expect from the Greenfield family of tools.



Our mission is easily fulfilled with direct access to the finest raw materials from our own mines. These materials are then refined in our own mills and made into the raw material used in manufacturing Greenfield's Industries unparalleled drills, end mills, taps, dies and other specially manufactured tools.

All taps in the Greenfield Threading line are designed to machine a broad range of materials and are manufactured out of premium high speed steel.

In the ever-changing demands of industry and technology, we are continuously researching and finding ways to provide our customers with all of your cutting tool needs.



Metal Cutting Safety *Information to read before using Greenfield Threading products*


Modern metalcutting operations involve high energy, high spindle or cutter speeds, and high temperatures and cutting forces. Hot, flying chips may be projected from the workpiece during metalcutting. Although advanced cutting tool materials are designed and manufactured to withstand the high cutting forces and temperatures that normally occur in these operations, they are susceptible to fragmenting in service, particularly if they are subjected to over-stress, severe impact, or otherwise abused. Therefore, precautions should be taken to adequately protect workers, observers, and equipment against hot, flying chips, fragmented cutting tools, broken workpieces, or other similar projectiles. Machines should be fully guarded and personal protective equipment should be used at all times.

When grinding advanced cutting tool materials, a suitable means for collection and disposal of dust, mist, or sludge should be provided. Overexposure to dust or mist containing metallic particles can be hazardous to health, particularly if exposure continues over an extended period of time, and may cause eye, skin, and mucous membrane irritation and temporary or permanent respiratory disease. Certain existing pulmonary and skin conditions may be aggravated by exposure to dust or mist. Adequate ventilation, respiratory protection, and eye protection should be provided when grinding, and workers should avoid breathing of and prolonged skin contact with dust or mist.

General Industry Safety and Health Regulations, Part 1910, U.S. Department of Labor, published in Title 29 of the Code of Federal Regulations should be consulted. Obtain a copy from Greenfield and read the applicable Material Safety Data Sheet before grinding.

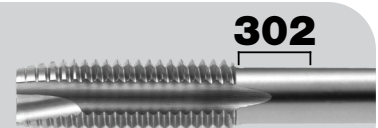
Cutting tools are only one part of the worker /machine-tool system. Many variables exist in machining operations, including the metal removal rate; the workpiece size, shape, strength and rigidity; the chucking and fixturing; the load carrying capability of centers; the cutter and spindle speed and torque limitations; the holder and boring bar overhang; the available power; and the condition of the tooling and the machine. A safe metalcutting operation must take all of these variables, and others, into consideration.

Greenfield has no control over the end use of its products or the environment into which those products are placed. Greenfield urges that its customers adhere to the recommended standards of use of their metalcutting machines and tools, and that they follow procedures that ensure safe metalcutting operations. The information included throughout this catalog under the heading "Technical Data" and other recommendations on machining practices referred to herein are only advisory in nature and do not constitute representations or warranties and are not necessarily appropriate for any particular work environment or application.

 **WARNING:** This product contains Cobalt and/or Nickel and/or Lead a chemical known to the state of California to cause cancer or birth defects or other reproductive harm. For more information: www.P65Warnings.ca.gov

Effective May, 2022

Greenfield is moving general purpose Hand and Spiral Point taps from a 302A to a 302 tap blank.













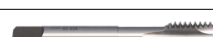
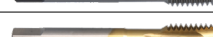
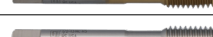











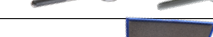

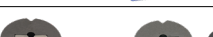


	Style	Tool Material			Surface Treatment				Image	Page		
		HSS	HSS-E	Carbon Steel	Bright	Black Oxide	TIN	TICN			Oxide over Nitride	
Hand Taps for Through or Blind Holes												
CNC Straight Flute	HTHM		•						•	•		6
Straight Flute <i>General Purpose</i>	HTGP	•			•	•	•	•				Sets Page 16
Left-Hand Straight Flute <i>General Purpose</i>	HTGPL	•			•							11
Spiral Point Taps for Through Holes												
CNC Spiral Point	SPS		•			•						12
Spiral Point <i>General Purpose</i>	SPGP	•			•	•	•	•				Sets Page 16
Spiral Point plus 5 <i>General Purpose</i>	SPGP+5	•			•	•						17
6" Extended Length Spiral Point <i>General Purpose</i>	SPGPX	•			•							18
6" Extended Length Spiral Point plus 5 <i>General Purpose</i>	SPGPX+5	•			•	•						18
Low Shear Spiral Point <i>General Purpose</i>	SPLS	•			•							19
Spiral Point for Aerospace Fasteners	SPAR	•					•					20
CNC Heavy-Duty Spiral Point	SPHD	•			•	•						21
Spiral Flute Taps for Blind Holes												
CNC Heavy-Duty Spiral Flute	SFHD	•				•						23
High-Spiral Spiral Flute <i>General Purpose</i>	SFGP	•			•		•	•				24
High-Spiral Spiral Flute plus 5 <i>General Purpose</i>	SFGP+5	•			•	•						25
Thread Forming Taps												
Thread Forming <i>General Purpose</i>	FTGP	•			•		•					26
Pipe Taps												
NPT/NPTF Medium Hook Taper Pipe	PTT	•			•		•					27
NPT/NPTF Medium Hook Interrupted Thread Taper Pipe	PTTI	•			•		•					28
NPS/NPSM/NPSC and NPSF Medium Hook Straight Pipe	PTS	•			•							29
CNC Extra Length Medium Hook Taper Pipe Tap with Machine Tap Shank	ELPTT	•			•							29
Dies												
Hexagon Re-Threading Dies, Carbon Steel	377		•		•							30
Round Adjustable Dies, Carbon Steel and High-Speed Steel	382, 6382, 383	•		•	•							32-34
Die Stocks for Round Adjustable Dies	1750, 1790											34
Tap & Round Adjustable Die Set	T&RAD Sets											35
Little Giant® Two-Piece Die Systems	380, 1383, 1384, 1385, 1386,											36
Little Giant® Two-Piece Die Sets & Accessories	1381, 1382, 1387, A1											37-38
Tap Wrenches	300, 330											39
Screw Extractors	335											40



Table of Content / Surface Treatments

Technical Information

Tap / Drill Recommendations	5
Pipe Tap Recommendations	28
Tapping Speeds	41-43
Tap Nomenclature	44-45
Standard Tap Marking System	46
302 / 302A / 311 Standard Tap Dimensions	47-49
Thread Limits	50-52
Basic Thread Dimensions	53-55
Quick Shipment Program – Special Taps – Ground Thread	56
Decimal Equivalent Chart	inside back cover



How to request Made-to-Order taps	12
The Proper Use of Lubricants in Tapping	22
Ground Thread Tap Limits	23
Tap Drill Recommendations - NPT, NPTF, NPSM, NPSC, NPSF Sizes	27
Pipe Taps	28

TiN / TiCN

Recommendations

Surface Treatments for Taps

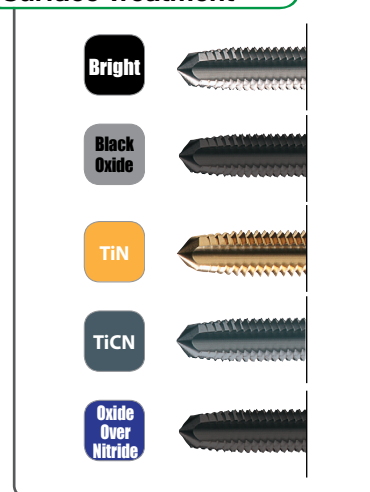
Treatment	Recommended Applications	Precautions
TiN (Titanium Nitride)	For ferrous and non-metallic materials: free-machining steels and irons, high tensile steels, tough machining steels, plastics, hard rubber, and fiber. The hard, smooth finish increases tool life, improves finish, and allows higher speeds.	Use with caution in titanium, titanium alloys, and aluminum die casting due to tendency to gall.
TiCN (Titanium Carbonitride)	For ferrous and non-ferrous materials: cast iron, aluminum, stainless steel, brass, abrasive materials, high-silicon automotive aluminum, glass-filled plastics, and composites. The hard, smooth finish increases tool life and improves finish.	Use with caution in titanium and titanium alloys due to tendency to gall.

Material

✓ = BEST Performance * Also Suitable

Icon	Material	Hardness	Surface Treatment Suggestion	
			TiN	TiCN
M	Austenitic Stainless Steel	< 35 HRc		✓
	Martensitic Stainless Steel	< 35 HRc		✓
	Martensitic Stainless Steel	>= 35 HRc		✓
	PH Stainless Steel	< 35 HRc		✓
	PH Stainless Steel	<= 35 HRc		✓
S	Ni, Co, Fe Based Super Alloys			✓
	Titanium			✓
P	Alloy Steel	16-23 HRc	*	✓
	Alloy Steel	23-38 HRc	*	✓
	Alloy Steel	> 38 HRc		✓
	Carbon Steel	16-23 HRc	*	✓
	Carbon Steel	23-38 HRc	*	✓
	Carbon Steel	> 38 HRc		✓
	Low Carbon Steel	13-23 HRc	*	✓
	Low Carbon Steel	23-38 HRc	*	✓
Low Carbon Steel	> 38 HRc		✓	
K	Gray Cast Iron	18-22 HRc		✓
	Nodular Cast Iron	22-32 HRc	*	✓
N	Aluminum	< 10% Si	*	✓
	Aluminum	> 10% Si	*	✓
H	Hardened Steel	>45 HRc		✓

Surface Treatment



Additional treatments available upon request.



Color Code: Machine Screw, Fractional, and Metric Sizes

Tap Size & Pitch		Cutting Taps		Forming Taps		Tap Size & Pitch		Cutting Taps		Forming Taps	
		Drill Size	Decimal Inch	Drill Size	Decimal Inch			Drill Size	Decimal Inch	Drill Size	Decimal Inch
0-80		3/64	.0469	54	.0550	1/2-13	M12 x 1.25	10.8	.4252	11.5	.4528
	M1.6 x 0.35	1.25	.0492	1.45	.0571				27/64	.4219	15/32
1-64	M1.8 x 0.35	1.45	.0571	1.65	.0650	1/2-20	M14 x 2	12.0	.4724	12.25	.4823
		53	.0595	51	.0670				29/64	.4531	33/64
1-72	M2 x 0.4	1.6	.0630	1.8	.0709	9/16-12		31/64	.4844	17/32	.5312
		53	.0595	51	.0670		9/16-18		33/64	.5156	13.5
2-56		50	.0700	5/64	.0781	5/8-11			17/32	.5312	14.75
	2-64	50	.0700	47	.0785		5/8-18		37/64	.5781	15.25
	M2.2 x 0.45	1.75	.0689	2.0	.0787			M16 x 2	14.0	.5512	19/32
	M2.5 x 0.45	2.05	.0807	2.3	.0906		M16 x 1.5	14.5	.5709	15.25	.6004
3-48		47	.0785	43	.0890		M18 x 2.5	15.5	.6102	39/64	.6094
3-56		46	.0810	2.3	.0906		M18 x 1.5	16.5	.6496	17.25	.6791
4-40		43	.0890	38	.1015	3/4-10		21/32	.6562	45/64	.7031
	4-48	42	.0935	2.6	.1024		3/4-16		11/16	.6875	23/32
5-40	M3 x 0.5	2.5	.0984	7/64	.1094			M20 x 2.5	17.5	.6890	FORM TAPS NOT AVAILABLE IN THESE SIZES
		38	.1015	33	.1130		M20 x 1.5	18.5	.7283		
5-44	M3.5 x 0.6	2.9	.1142	3.2	.1260		M22 x 2.5	19.5	.7677		
		37	.1040	2.9	.1142		M22 x 1.5	20.5	.8071		
6-32		36	.1065	1/8	.1250	7/8-9		49/64	.7656		
	6-40	33	.1130	3.25	.1280		7/8-14		13/16	.8125	
	M4 x 0.7	3.3	.1299	3.7	.1457			M24 x 3	21.0	.8268	
	8-32	29	.1360	25	.1495		M24 x 2	22.0	.8661		
8-36	M4.5 x 0.75	3.7	.1457	4.1	.1614	1-8		7/8	.8750		
		26	.1470	11/64	.1719		1-12		59/64	.9219	
10-24		21	.1590	16	.1770			M27 x 3	24.0	.9449	
12-24	M5 x 0.8	4.2	.1654	14	.1820		M27 x 2	25.0	.9843		
		16	.1770	8	.1990	1-1/8-7		63/64	.9844		
12-28	M6 x 1	5.0	.1969	7/32	.2188		1-1/8-12		1-3/64	1.0469	
		15	.1800	7	.2010			M30 x 3.5	26.5	1.0433	
1/4-20		7	.2010	1	.2280		M30 x 2	28.0	1.1024		
	1/4-28	3	.2130	15/64	.2340	1-1/4-7		1-7/64	1.1094		
5/16-18	M7 x 1	6.0	.2362	F	.2570		1-1/4-12		1-11/64	1.1719	
		F	.2570	L	.2900			M33 x 3.5	29.5	1.1614	
5/16-24	M8 x 1.25	6.7	.2638	7.4	.2913		M33 x 2	31.0	1.2205		
		7.0	.2756	19/64	.2969	1-3/8-6		1-7/32	1.2188		
3/8-16	M8 x 1	7.0	.2756	19/64	.2969		1-3/8-12		1-19/64	1.2969	
		5/16	.3125	S	.3480			M36 x 4	32.0	1.2598	
3/8-24		Q	.3320	T	.3580		M36 x 3	33.0	1.2992		
	M10 x 1.5	8.5	.3346	U	.3680	1-1/2-6		1-11/32	1.3438		
7/16-14	M10 x 1.25	8.7	.3425	9.4	.3701		1-1/2-12		1-27/64	1.4219	
		U	.3680	Y	.4040			M39 x 4	35.0	1.3780	
7/16-20		25/64	.3906	Z	.4130		M39 x 3	36.0	1.4173		
	M12 x 1.75	10.2	.4016	11.2	.4409						

Machine Tap for Through or Blind Holes



CNC Straight Flute

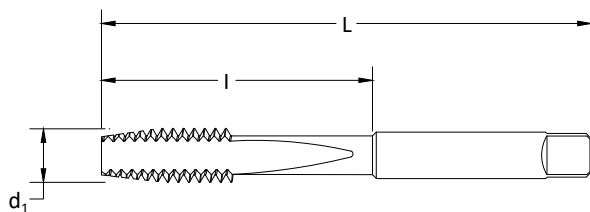
Cast Iron and Harder Materials

Style: **HTHM**



Note

Tapping speeds - see Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	order number	
							Oxide over Nitride	TiCN
10-24	UNC	.1900	4	H3	2.375	.875	330259	—
10-32	UNF	.1900	4	H3	2.375	.875	330260	—
1/4-20	UNC	.2500	4	H3	2.500	1.000	330261	300216
1/4-20	UNC	.2500	4	H5	2.500	1.000	330278	—
1/4-28	UNF	.2500	4	H3	2.500	1.000	330262	—
5/16-18	UNC	.3125	4	H3	2.719	1.125	330263	300217
5/16-18	UNC	.3125	4	H5	2.719	1.125	330279	—
5/16-24	UNF	.3125	4	H3	2.719	1.125	330264	—
3/8-16	UNC	.3750	4	H3	2.938	1.250	330265	—
3/8-16	UNC	.3750	4	H5	2.938	1.250	330280	—
7/16-14	UNC	.4375	4	H3	3.156	1.438	330267	—
7/16-14	UNC	.4375	4	H5	3.156	1.438	330281	—
1/2-13	UNC	.5000	4	H3	3.375	1.656	330269	—
1/2-13	UNC	.5000	4	H5	3.375	1.656	330283	—
1/2-20	UNF	.5000	4	H5	3.375	1.656	330284	—
3/4-16	UNF	.7500	6	H5	4.250	2.000	330290	—



Metric - CNC Straight Flute

Cast Iron and Harder Materials

Style: **HTHM**

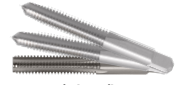
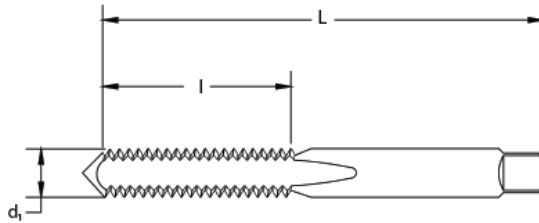
diameter & pitch	d ₁ mm	number of flutes	D-limit	L in	I in	order number	
						Oxide over Nitride	TiCN
M5 x 0.8	5.00	4	D4	2.375	.875	330291	—
M6 x 1	6.00	4	D5	2.500	1.000	330292	—
M8 x 1.25	8.00	4	D5	2.719	1.125	330293	—
M10 x 1.5	10.00	4	D6	2.938	1.250	330294	300218
M12 x 1.25	12.00	4	D6	3.375	1.656	330295	—
M12 x 1.75	12.00	4	D6	3.375	1.656	330296	300219
M14 x 1.5	14.00	4	D6	3.594	1.656	330298	—



Style: **HTGP**



Note
Tapping speeds - see Technical Section.
Set consists of one each taper, plug, bottoming chamfer.
Sets available



diameter & pitch	thread form	d ₁ in	no. flats	H-limit	L in	I in	Order Number										taper/plug/bottom	
							Taper		Plug			Bottoming		Set				
							Bright	TiN	Bright	B.Oxide	TiN	TiCN	Bright	TiN	Bright	TiN		
0-80	UNF	0.060	2	H1	1.625	0.313	330004	—	330016	—	—	—	330066	—	—	—		
0-80	UNF	0.060	2	H2	1.625	0.313	173055	—	300041	—	300047	—	300058	300054	173203	—		
1-64	UNC	0.073	2	H1	1.688	0.375	330005	—	330017	—	173117	—	330067	173182	173204	—		
1-64	UNC	0.073	2	H2	1.688	0.375	173056	—	173092	—	—	—	173151	—	—	—		
1-72	UNF	0.073	2	H1	1.688	0.375	330006	—	300165	—	173118	—	330068	173183	173205	—		
1-72	UNF	0.073	2	H2	1.688	0.375	173057	—	173093	—	—	—	173152	—	—	—		
2-56	UNC	0.086	2	H2	1.750	0.438	173058	—	330018	—	—	—	330069	—	—	—		
2-56	UNC	0.086	3	H1	1.750	0.438	330007	—	330019	—	—	—	300264	—	—	—		
2-56	UNC	0.086	3	H2	1.750	0.438	300272	300278	300280	—	300286	330035	300299	300294	341573	174511		
2-64	UNF	0.086	3	H2	1.750	0.438	330008	—	330020	—	—	—	330070	—	173206	—		
3-48	UNC	0.099	3	H2	1.813	0.500	300512	339044	300520	—	300526	—	300538	339045	341599	355802		
3-56	UNF	0.099	3	H2	1.813	0.500	300637	339046	300645	—	339047	—	300652	339048	341607	355803		
4-36	UNF	0.112	3	H2	1.880	0.563	—	—	172952	—	—	—	—	—	—	—		
4-40	UNC	0.112	2	H1	1.875	0.563	—	—	330021	—	—	—	—	—	—	—		
4-40	UNC	0.112	2	H2	1.875	0.563	—	—	300769	—	—	—	300778	—	—	—		
4-40	UNC	0.112	3	H1	1.875	0.563	172949	—	172950	—	—	—	172951	—	—	—		
4-40	UNC	0.112	3	H2	1.875	0.563	300819	300815	300827	—	300823	330036	300835	300831	341623	174530		
4-48	UNF	0.112	3	H2	1.875	0.563	300934	300930	300942	—	300948	—	300959	300955	341649	174531		
5-40	UNC	0.125	2	H2	1.938	0.625	—	—	301007	—	—	—	301015	—	—	—		
5-40	UNC	0.125	3	H1	1.938	0.625	—	—	172953	—	—	—	172954	—	—	—		
5-40	UNC	0.125	3	H2	1.938	0.625	301056	301052	301064	—	301060	—	301072	301078	341664	174536		
5-44	UNF	0.125	3	H2	1.938	0.625	301171	301177	301189	—	173119	—	301197	301193	341672	174537		
6-32	UNC	0.138	2	H2	2.000	0.688	173059	—	301247	—	173120	—	301254	173184	173207	—		
6-32	UNC	0.138	2	H3	2.000	0.688	173060	173078	301270	—	173121	173141	301288	173185	173208	173227		
6-32	UNC	0.138	3	H1	2.000	0.688	173955	—	172956	—	—	—	172957	—	—	—		
6-32	UNC	0.138	3	H2	2.000	0.688	301320	173079	301338	—	330062	—	301346	173186	341698	173228		
6-32	UNC	0.138	3	H3	2.000	0.688	301353	301359	301361	330037	301367	330038	301379	301375	341706	174538		
6-32	UNC	0.138	3	H7	2.000	0.688	—	—	172958	—	—	—	172959	—	—	—		
6-40	UNF	0.138	2	H2	2.000	0.688	—	—	172960	—	—	—	—	—	—	—		
6-40	UNF	0.138	3	H2	2.000	0.688	301478	301474	301486	—	301482	—	301494	301490	341714	174539		
8-32	UNC	0.164	2	H1	2.125	0.750	—	—	330022	—	—	—	173153	—	—	—		
8-32	UNC	0.164	2	H2	2.125	0.750	173061	173080	301544	—	173122	—	301551	—	173209	—		
8-32	UNC	0.164	2	H3	2.125	0.750	173062	173081	301577	—	173123	173142	301585	173187	173210	173229		
8-32	UNC	0.164	3	H1	2.125	0.750	—	—	172961	—	—	—	—	—	—	—		
8-32	UNC	0.164	3	H2	2.125	0.750	—	—	301635	—	—	—	301643	—	—	—		
8-32	UNC	0.164	3	H3	2.125	0.750	173063	—	301668	—	173124	—	301676	173188	173211	—		
8-32	UNC	0.164	3	H7	2.125	0.750	—	—	172965	—	—	—	172966	—	—	—		
8-32	UNC	0.164	4	H1	2.125	0.750	172962	—	172963	—	—	—	172964	—	—	—		
8-32	UNC	0.164	4	H2	2.125	0.750	301718	173082	301726	—	330063	—	301734	—	341730	—		
8-32	UNC	0.164	4	H3	2.125	0.750	301742	301748	301759	330039	301755	330040	301767	301763	341748	174544		
8-36	UNF	0.164	4	H1	2.125	0.750	—	—	172967	—	—	—	—	—	—	—		

continued on next page





Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index

diameter & pitch	thread form	d ₁ in	no. flats	H-limit	L in	I in	Order Number									
							Taper		Plug			Bottoming		Set		
							Bright	TiN	Bright	B.Oxide	TiN	TiCN	Bright	TiN	Bright	TiN
8-36	UNF	0.164	4	H2	2.125	0.750	301924	301920	301933	—	301938	—	301940	301946	341755	174545
10-24	UNC	0.190	2	H2	2.375	0.875	—	—	301999	—	—	—	173154	—	—	—
10-24	UNC	0.190	2	H3	2.375	0.875	173064	—	302021	—	173125	—	302039	173189	173212	—
10-24	UNC	0.190	3	H1	2.375	0.875	—	—	172968	—	—	—	—	—	—	—
10-24	UNC	0.190	3	H2	2.375	0.875	—	—	172971	—	—	—	—	—	—	—
10-24	UNC	0.190	3	H3	2.375	0.875	173065	—	302112	—	173126	—	302120	173190	173213	—
10-24	UNC	0.190	3	H7	2.375	0.875	—	—	172972	—	—	—	172973	—	—	—
10-24	UNC	0.190	4	H1	2.375	0.875	172969	—	172970	—	—	—	—	—	—	—
10-24	UNC	0.190	4	H2	2.375	0.875	302161	—	302179	—	—	—	302187	—	341771	—
10-24	UNC	0.190	4	H3	2.375	0.875	302195	302191	302203	330041	302209	330042	302211	302217	341789	174508
10-24	UNC	0.190	4	H7	2.375	0.875	—	—	172974	—	—	—	172975	—	—	—
10-32	UNF	0.190	2	H1	2.375	0.875	—	—	172976	—	—	—	172977	—	—	—
10-32	UNF	0.190	2	H2	2.375	0.875	173066	—	302260	—	173127	—	302278	—	—	—
10-32	UNF	0.190	2	H3	2.375	0.875	173067	173083	302294	—	173128	173143	302302	173191	173214	173230
10-32	UNF	0.190	3	H1	2.375	0.875	—	—	172978	—	—	—	—	—	—	—
10-32	UNF	0.190	3	H2	2.375	0.875	—	—	173094	—	173129	—	173155	—	—	—
10-32	UNF	0.190	3	H3	2.375	0.875	—	—	302385	—	330045	—	302393	—	—	—
10-32	UNF	0.190	4	H1	2.375	0.875	172979	—	172980	—	—	—	172981	—	—	—
10-32	UNF	0.190	4	H2	2.375	0.875	302435	173084	302443	—	173130	—	302450	173192	341805	173231
10-32	UNF	0.190	4	H3	2.375	0.875	302468	302464	302476	330043	302472	330044	302484	302480	341813	174509
12-24	UNC	0.216	4	H3	2.375	0.938	302526	302522	302534	—	302530	—	302542	302548	341821	174510
12-28	UNF	0.216	4	H3	2.375	0.938	302583	—	302591	—	330046	—	302609	330079	341839	—
1/4-20	UNC	0.250	2	H3	2.500	1.000	173068	173085	326004	—	173131	173144	326012	173193	173215	173233
1/4-20	UNC	0.250	3	H1	2.500	1.000	—	—	172982	—	—	—	—	—	—	—
1/4-20	UNC	0.250	3	H2	2.500	1.000	—	—	330024	—	—	—	173156	—	—	—
1/4-20	UNC	0.250	3	H3	2.500	1.000	173069	173086	326160	—	173132	173145	326178	173194	173216	173234
1/4-20	UNC	0.250	3	H5	2.500	1.000	—	—	330025	—	—	—	173157	—	—	—
1/4-20	UNC	0.250	4	H1	2.500	1.000	305008	—	305016	—	—	—	305024	—	330080	—
1/4-20	UNC	0.250	4	H2	2.500	1.000	305033	—	305040	—	—	—	305057	—	342514	—
1/4-20	UNC	0.250	4	H3	2.500	1.000	305065	305061	305073	330047	305079	330048	305081	305087	342522	174506
1/4-20	UNC	0.250	4	H5	2.500	1.000	173070	—	305107	—	305103	—	305115	305111	173217	—
1/4-20	UNC	0.250	4	H11	2.500	1.000	—	—	330026	—	—	—	—	—	—	—
1/4-28	UNF	0.250	2	H3	2.500	1.000	—	—	326087	—	—	—	326095	—	—	—
1/4-28	UNF	0.250	3	H3	2.500	1.000	—	—	326244	—	326240	—	326251	—	—	—
1/4-28	UNF	0.250	4	H1	2.500	1.000	—	—	172983	—	—	—	172984	—	—	—
1/4-28	UNF	0.250	4	H2	2.500	1.000	—	—	305198	—	—	—	305206	305209	—	—
1/4-28	UNF	0.250	4	H3	2.500	1.000	305214	305210	305222	330049	305228	330051	305230	305236	342530	174507
1/4-28	UNF	0.250	4	H4	2.500	1.000	—	—	173095	—	—	—	173158	—	—	—
5/16-18	UNC	0.313	2	H3	2.719	1.125	173071	—	326285	—	173133	—	326293	173195	173218	—
5/16-18	UNC	0.313	3	H3	2.719	1.125	173072	—	326368	—	173134	—	326376	173196	—	—
5/16-18	UNC	0.313	3	H5	2.719	1.125	—	—	173096	—	—	—	173159	—	—	—
5/16-18	UNC	0.313	4	H1	2.719	1.125	172985	—	172986	—	—	—	172987	—	—	—
5/16-18	UNC	0.313	4	H2	2.719	1.125	—	—	305370	—	—	—	305388	—	—	—
5/16-18	UNC	0.313	4	H3	2.719	1.125	305396	305392	305404	330052	305403	330053	305412	305418	342555	174532
5/16-18	UNC	0.313	4	H5	2.719	1.125	—	—	305438	—	—	—	305446	—	—	—
5/16-18	UNC	0.313	4	H11	2.719	1.125	—	—	330027	—	—	—	—	—	—	—
5/16-24	UNF	0.313	3	H3	2.719	1.125	—	—	326442	—	—	—	326459	—	—	—
5/16-24	UNF	0.313	4	H1	2.719	1.125	—	—	172988	—	—	—	172989	—	—	—
5/16-24	UNF	0.313	4	H2	2.719	1.125	173073	—	173097	—	—	—	173160	—	—	—
5/16-24	UNF	0.313	4	H3	2.719	1.125	305511	305517	305529	—	305525	—	305537	305533	342563	174533
5/16-24	UNF	0.313	4	H4	2.719	1.125	—	—	305552	—	—	—	305560	—	—	—
3/8-16	UNC	0.375	3	H1	2.938	1.250	—	—	172990	—	—	—	—	—	—	—
3/8-16	UNC	0.375	3	H3	2.938	1.250	173074	—	326525	—	326521	—	326533	326539	173219	—
3/8-16	UNC	0.375	3	H5	2.938	1.250	—	—	173098	—	—	—	173161	—	—	—
3/8-16	UNC	0.375	4	H2	2.938	1.250	305676	—	305677	—	173135	—	305685	—	—	—
3/8-16	UNC	0.375	4	H3	2.938	1.250	305693	305699	305701	330055	305707	330057	305719	305715	342589	174528
3/8-16	UNC	0.375	4	H5	2.938	1.250	—	—	305735	—	305731	—	305743	305749	—	—
3/8-24	UNF	0.375	3	H3	2.938	1.250	—	—	326608	—	—	—	326616	—	—	—

continued on next page



diameter & pitch	thread form	d _i in	no. flats	H- limit	L in	I in	Order Number									
							Taper		Plug			Bottoming		Set		
							Bright	TiN	Bright	B.Oxide	TiN	TiCN	Bright	TiN	Bright	TiN
3/8-24	UNF	0.375	4	H2	2.938	1.250	—	—	173099	—	—	—	173162	—	—	—
3/8-24	UNF	0.375	4	H3	2.938	1.250	305818	305814	305826	330058	305822	173146	305834	305830	342597	174529
3/8-24	UNF	0.375	4	H4	2.938	1.250	—	—	172991	—	—	—	172992	—	—	—
3/8-24	UNF	0.375	4	H5	2.938	1.250	—	—	173100	—	—	—	173163	—	—	—
7/16-14	UNC	0.438	3	H3	3.156	1.438	—	—	173101	—	—	—	173164	—	—	—
7/16-14	UNC	0.438	4	H2	3.156	1.438	—	—	173102	—	—	—	173165	—	—	—
7/16-14	UNC	0.438	4	H3	3.156	1.438	305990	305996	306006	—	306002	173147	306014	306010	342605	174540
7/16-14	UNC	0.438	4	H5	3.156	1.438	—	—	306030	—	306036	—	306048	306044	—	—
7/16-20	UNF	0.438	3	H3	3.156	1.438	—	—	173103	—	—	—	173166	—	—	—
7/16-20	UNF	0.438	4	H2	3.156	1.438	—	—	173104	—	—	—	173167	—	—	—
7/16-20	UNF	0.438	4	H3	3.156	1.438	306113	306119	306121	—	306127	—	306139	306135	342613	174541
7/16-20	UNF	0.438	4	H5	3.156	1.438	—	—	306154	—	306157	—	306162	306165	—	—
1/2-13	UNC	0.500	3	H3	3.375	1.656	173075	—	326681	—	173136	—	326699	173197	173220	—
1/2-13	UNC	0.500	4	H1	3.375	1.656	—	—	306246	—	—	—	172993	—	—	—
1/2-13	UNC	0.500	4	H2	3.375	1.656	173076	—	173105	—	—	—	173168	—	—	—
1/2-13	UNC	0.500	4	H3	3.375	1.656	306295	306291	306303	330059	306309	330060	306311	306317	342621	174504
1/2-13	UNC	0.500	4	H5	3.375	1.656	—	—	306337	—	—	—	306345	306341	—	—
1/2-20	UNF	0.500	3	H3	3.375	1.656	—	—	326707	—	—	—	—	—	—	—
1/2-20	UNF	0.500	4	H1	3.375	1.656	172994	—	—	—	—	—	172995	—	—	—
1/2-20	UNF	0.500	4	H3	3.375	1.656	306444	306440	306451	—	306457	—	306469	306465	342639	174505
1/2-20	UNF	0.500	4	H5	3.375	1.656	—	—	306485	—	—	—	—	—	—	—
9/16-12	UNC	0.563	4	H2	3.594	1.656	—	—	172996	—	—	—	—	—	—	—
9/16-12	UNC	0.563	4	H3	3.594	1.656	306626	306622	306634	—	306630	—	306642	306648	342647	174546
9/16-12	UNC	0.563	4	H5	3.594	1.656	—	—	173106	—	—	—	173169	—	—	—
9/16-18	UNF	0.563	4	H2	3.594	1.656	—	—	172997	—	—	—	—	—	—	—
9/16-18	UNF	0.563	4	H3	3.594	1.656	306741	—	306758	—	306754	—	306766	306762	342654	—
9/16-18	UNF	0.563	4	H5	3.594	1.656	—	—	173107	—	—	—	173170	—	—	—
5/8-11	UNC	0.625	4	H2	3.813	1.813	—	—	173108	—	—	—	173171	—	—	—
5/8-11	UNC	0.625	4	H3	3.813	1.813	306923	306929	306931	330061	306937	173148	306949	306945	342662	174534
5/8-11	UNC	0.625	4	H5	3.813	1.813	—	—	306964	—	—	—	306972	306978	—	—
5/8-18	UNF	0.625	4	H2	3.813	1.813	—	—	172998	—	—	—	172999	—	—	—
5/8-18	UNF	0.625	4	H3	3.813	1.813	307046	307042	307053	—	307059	—	307061	307067	342670	174535
5/8-18	UNF	0.625	4	H5	3.813	1.813	—	—	173109	—	—	—	173172	—	—	—
11/16-11	UNS	0.688	4	H3	4.031	1.813	307160	—	307178	—	—	—	307186	—	342688	—
11/16-16	UNS	0.688	4	H3	4.031	1.813	307194	—	307202	—	—	—	307210	—	342696	—
3/4-10	UNC	0.750	4	H2	4.250	2.000	—	—	173110	—	—	—	173173	—	—	—
3/4-10	UNC	0.750	4	H3	4.250	2.000	307343	307349	307350	—	307356	173149	307368	307364	342704	174513
3/4-10	UNC	0.750	4	H5	4.250	2.000	—	—	173111	—	—	—	173174	—	—	—
3/4-16	UNF	0.750	4	H2	4.250	2.000	—	—	173112	—	—	—	173175	—	—	—
3/4-16	UNF	0.750	4	H3	4.250	2.000	307467	307463	307475	—	307471	—	307483	307489	342712	174514
3/4-16	UNF	0.750	4	H5	4.250	2.000	—	—	173113	—	—	—	173176	—	—	—
7/8-9	UNC	0.875	4	H4	4.468	2.219	307707	307703	307715	—	307711	—	307723	307729	342720	174543
7/8-9	UNC	0.875	4	H6	4.468	2.219	—	—	173114	—	—	—	173177	—	—	—
7/8-14	UNF	0.875	4	H4	4.468	2.219	307822	307828	307830	—	307836	173150	307848	307844	342738	174542
7/8-14	UNF	0.875	4	H6	4.468	2.219	—	—	173115	—	—	—	173178	—	—	—
1-8	UNC	1.000	4	H4	5.125	2.500	308069	308065	308077	—	308073	—	308085	308081	342746	174503
1-12	UNF	1.000	4	H4	5.125	2.500	308184	—	308192	—	330065	—	308200	—	—	—
1-14	UNS	1.000	4	H4	5.125	2.500	308275	—	308283	—	—	—	308291	—	342761	—
1-1/8-7	UNC	1.125	4	H4	5.438	2.563	308424	—	308432	—	—	—	308440	—	—	—
1-1/8-12	UNF	1.125	4	H4	5.438	2.563	308457	—	308465	—	—	—	308473	—	—	—
1-1/4-7	UNC	1.250	4	H4	5.750	2.563	308549	—	308556	—	—	—	308564	—	—	—
1-1/4-12	UNF	1.250	6	H4	5.750	2.563	308572	—	308580	—	—	—	308598	—	—	—
1-3/8-6	UNC	1.375	4	H4	6.063	3.000	—	—	308671	—	—	—	—	—	—	—
1-3/8-12	UNF	1.375	6	H4	6.063	3.000	—	—	308705	—	—	—	308713	—	—	—
1-1/2-6	UNC	1.500	4	H4	6.375	3.000	308788	—	308796	—	—	—	308804	—	—	—
1-1/2-12	UNF	1.500	6	H4	6.375	3.000	308812	—	308820	—	—	—	308838	—	—	—

Metric sizes on the next page



Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

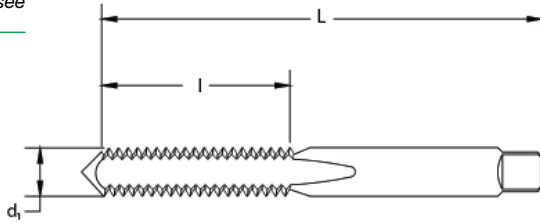
Sets

Index

diameter & pitch	d ₁ mm	no. flats	D- limit	L in	I in	Order Number							
						Taper		Plug		Bottoming		Set	
						Bright	TiN	Bright	TiN	Bright	TiN	Bright	TiN
M1.6 x 0.35	0.063	2	D3	1.625	0.313	173239	—	328018	—	330071	—	—	—
M2 x 0.4	0.079	3	D3	1.750	0.438	328067	328684	328075	328685	328083	328686	174516	343502
M2.5 x 0.45	0.098	3	D3	1.813	0.500	328158	328688	328166	328689	328174	328690	174559	343503
M3 x 0.5	0.118	3	D3	1.938	0.625	328182	328691	328190	328188	328208	328205	174519	343504
M3.5 x 0.6	0.138	3	D4	2.000	0.688	328240	173087	328257	328693	328265	173198	174560	173235
M4 x 0.7	0.158	4	D4	2.125	0.750	328273	328695	328281	328287	328299	328295	174520	343506
M4.5 x 0.75	0.177	4	D4	2.375	0.875	328331	—	328349	328697	328356	—	174561	—
M5 x 0.8	0.197	4	D4	2.375	0.875	328364	328698	328372	328378	328380	328386	174521	343508
M6 x 1.0	0.236	4	D5	2.500	1.000	328422	328699	328430	328436	328448	328444	174522	343509
M7 x 1.0	0.276	4	D5	2.719	1.125	330009	—	328497	—	330072	—	—	—
M8 x 1.0	0.315	4	D5	2.719	1.125	330010	173088	330028	173137	330073	173199	173221	—
M8 x 1.25	0.315	4	D5	2.719	1.125	328547	328703	328554	328550	328562	328568	174524	343511
M10 x 1.25	0.394	4	D5	2.938	1.250	330011	173089	330029	173138	330074	173200	173222	173236
M10 x 1.5	0.394	4	D6	2.938	1.250	328604	328704	328612	328618	328620	328626	174548	343512
M12 x 1.25	0.472	4	D5	3.375	1.656	330012	173090	330030	173139	330075	173201	173223	173237
M12 x 1.75	0.472	4	D6	3.375	1.656	328661	328705	328679	328675	328687	328683	174549	343513
M14 x 1.5	0.551	4	D6	3.594	1.656	330013	173091	330031	173140	330076	173202	173224	173238
M14 x 2.0	0.551	4	D7	3.594	1.656	328752	328706	328760	328707	328778	328708	174550	343514
M16 x 1.5	0.630	4	D6	3.813	1.813	330014	—	330032	—	330077	—	—	—
M16 x 2.0	0.630	4	D7	3.813	1.813	328810	328709	328828	328710	328836	328711	174551	343515
M18 x 1.5	0.709	4	D6	4.031	1.813	330015	—	330033	—	173180	—	—	—
M18 x 2.5	0.709	4	D7	4.031	1.813	328877	—	328885	—	328893	—	174552	—
M20 x 1.5	0.787	4	D6	4.469	2.000	173077	—	330034	—	330078	—	173225	—
M20 x 2.5	0.787	4	D7	4.469	2.000	328935	—	328943	328716	328950	328717	174553	—
M24 x 3.0	0.945	4	D8	4.906	2.219	329057	—	329065	328719	329073	328720	173226	—
M30 x 3.5	1.181	4	D9	5.438	2.563	—	—	329180	—	173181	—	—	—



Note
Tapping speeds - see
Technical Section.



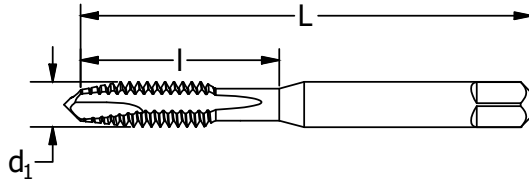
Order Number

diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Taper	Plug	Bottoming	Set
							Bright	Bright	Bright	taper/plug/bottom
6-32	UNC	.1380	3	H3	2.000	.688	—	313010	313028	—
8-32	UNC	.1640	4	H3	2.125	.750	313036	313044	313051	341912
10-24	UNC	.1900	4	H3	2.375		313069	313077	313085	—
10-32	UNF	.1900	4	H3	2.375	.875	313093	313102	313119	341938
1/4-20	UNC	.2500	4	H3	2.500	1.000	—	317516	—	—
1/4-28	UNF	.2500	4	H3	2.500	1.000	317532	317540	317557	318779
5/16-18	UNC	.3125	4	H3	2.719	1.125	—	317573	—	—
5/16-24	UNF	.3125	4	H3	2.719	1.125	—	317607	—	—
3/8-16	UNC	.3750	4	H3	2.938	1.250	—	317631	—	—
3/8-24	UNF	.3750	4	H3	2.938	1.250	—	317664	—	—
7/16-20	UNF	.4375	4	H3	3.156	1.438	—	317722	—	—
1/2-13	UNC	.5000	4	H3	3.375	1.656	—	317755	—	—
1/2-20	UNF	.5000	4	H3	3.375	1.656	—	317789	—	—
5/8-18	UNF	.6250	4	H3	3.813	1.813	—	317904	—	—
3/4-10	UNC	.7500	4	H3	4.250	2.000	—	317995	—	—
3/4-16	UNF	.7500	4	H3	4.250	2.000	—	318027	—	—

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number
8-32	UNC	.1640	3	H3	2.125	.750	330310
8-32	UNC	.1640	3	H5	2.125	.750	330333
10-24	UNC	.1900	3	H3	2.375	.875	330311
10-32	UNF	.1900	3	H3	2.375	.875	330312
1/4-20	UNC	.2500	3	H3	2.500	1.000	330313
1/4-20	UNC	.2500	3	H5	2.500	1.000	330336
5/16-18	UNC	.3125	3	H3	2.719	1.125	330315
5/16-24	UNF	.3125	3	H3	2.719	1.125	330316
3/8-16	UNC	.3750	3	H3	2.938	1.250	330317
1/2-13	UNC	.5000	3	H3	3.375	1.656	330321

Tech Tip

How to request Made-to-Order taps:

Information required for every order:

- quantity
- ordering number

Information required for some orders, depending on tool style:

- exact tool size
- threads per inch
- pitch
- thread form
- right-hand or left-hand configuration
- limit
- pitch diameter
- class of fit
- chamfer
- number of chamfered threads
- chamfer angle
- number of lube grooves
- short projections

Other features available:

- surface treatment
- special hook
- male centers removed
- special back tape
- recessed neck
- shank flats
- special shank diameter
- special rake
- thread relief
- interrupted threads
- controlled root
- ETTCO notch
- shank grooves

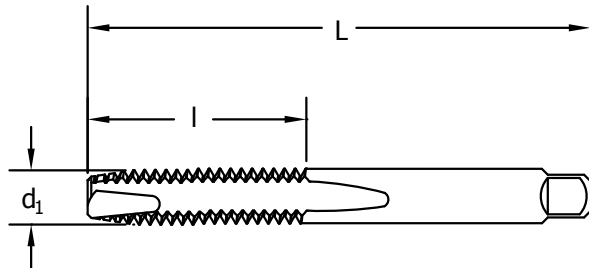


Style: SPGP

General Purpose
Spiral Point - Inch



Note
Tapping speeds - see
Technical Section.
Sets available



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number					
							Plug				Bottoming	
							Bright	Black Oxide	TiN	TiCN	Bright	TiN
0-80	UNF	0.060	2	H1	1.625	0.313	356002	—	—	—	—	—
0-80	UNF	0.060	2	H2	1.625	0.313	356027	330100	356023	330148	356035	—
1-64	UNC	0.073	2	H2	1.688	0.375	356068	—	356061	—	—	—
1-72	UNF	0.073	2	H1	1.688	0.375	356084	—	—	—	—	—
1-72	UNF	0.073	2	H2	1.688	0.375	356102	—	356106	—	—	—
2-56	UNC	0.086	2	H1	1.750	0.438	173000	—	—	—	—	—
2-56	UNC	0.086	2	H2	1.750	0.438	356142	330101	356148	330149	356159	—
2-64	UNF	0.086	2	H2	1.750	0.438	356183	—	—	—	—	—
3-48	UNC	0.099	2	H2	1.813	0.500	356225	—	356221	—	—	—
3-56	UNF	0.099	2	H2	1.813	0.500	356266	—	356262	—	—	—
4-40	UNC	0.112	2	H1	1.875	0.563	356308	—	—	—	—	—
4-40	UNC	0.112	2	H2	1.875	0.563	356324	330102	356320	330150	356332	356338
4-48	UNF	0.112	2	H2	1.875	0.563	356365	—	356361	—	—	—
5-40	UNC	0.125	2	H1	1.938	0.625	173001	—	—	—	—	—
5-40	UNC	0.125	2	H2	1.938	0.625	356407	330103	356403	330151	356415	—
6-32	UNC	0.138	2	H1	2.000	0.688	356421	—	—	—	—	—
6-32	UNC	0.138	2	H2	2.000	0.688	356422	330104	356486	173019	356498	—
6-32	UNC	0.138	2	H3	2.000	0.688	356506	330105	356502	330152	356514	356510
6-32	UNC	0.138	2	H7	2.000	0.688	359005	—	—	—	—	—
6-40	UNF	0.138	2	H2	2.000	0.688	356548	—	356544	—	—	—
8-32	UNC	0.164	2	H1	2.125	0.750	173002	—	—	—	—	—
8-32	UNC	0.164	2	H2	2.125	0.750	356589	330106	356585	173014	173024	—
8-32	UNC	0.164	2	H3	2.125	0.750	356633	330107	356602	330153	356634	356635
8-32	UNC	0.164	2	H7	2.125	0.750	359047	—	330138	—	—	—
8-36	UNF	0.164	2	H2	2.125	0.750	356647	—	330139	—	—	—
10-24	UNC	0.190	2	H1	2.375	0.875	356662	—	—	—	—	—
10-24	UNC	0.190	2	H2	2.375	0.875	356688	—	330140	—	173025	—
10-24	UNC	0.190	2	H3	2.375	0.875	356704	173012	356703	330154	356712	356718
10-24	UNC	0.190	2	H7	2.375	0.875	359088	—	330141	—	—	—
10-32	UNF	0.190	2	H1	2.375	0.875	173003	—	—	—	—	—
10-32	UNF	0.190	2	H2	2.375	0.875	356746	—	356742	—	173026	—
10-32	UNF	0.190	2	H3	2.375	0.875	356761	173013	356767	330155	356779	356775
10-32	UNF	0.190	2	H7	2.375	0.875	359120	—	330142	—	—	—
12-24	UNC	0.216	2	H1	2.375	0.938	173004	—	—	—	—	—
12-24	UNC	0.216	2	H3	2.375	0.938	356803	330108	356809	330156	173027	173050
12-28	UNF	0.216	2	H3	2.375	0.938	356845	—	356841	—	—	—

continued on next page

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index

Spiral Point Taps for Through Holes



General Purpose
Spiral Point - Inch

Style: **SPGP** (continued)



Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index

diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number					
							Plug				Bottoming	
							Bright	Black Oxide	TiN	TiCN	Bright	TiN
1/4-20	UNC	0.250	2	H1	2.500	1.000	357009	—	330143	—	—	—
1/4-20	UNC	0.250	2	H2	2.500	1.000	357025	330109	357021	173020	—	—
1/4-20	UNC	0.250	2	H3	2.500	1.000	357041	330110	357047	173021	357058	357054
1/4-20	UNC	0.250	2	H5	2.500	1.000	357066	—	357062	—	—	—
1/4-20	UNC	0.250	2	H11	2.500	1.000	330111	—	—	—	—	—
1/4-20	UNC	0.250	3	H3	2.500	1.000	357082	330112	357088	330157	173029	173051
1/4-20	UNC	0.250	3	H5	2.500	1.000	357108	—	357101	—	—	—
1/4-20	UNC	0.250	2	H13	2.500	1.000	358494	—	358490	—	—	—
1/4-28	UNF	0.250	2	H2	2.500	1.000	330113	—	—	—	—	—
1/4-28	UNF	0.250	2	H3	2.500	1.000	357165	330114	357161	173022	357173	357179
1/4-28	UNF	0.250	3	H2	2.500	1.000	330115	—	—	330158	—	—
5/16-18	UNC	0.313	2	H1	2.719	1.125	357249	—	—	—	—	—
5/16-18	UNC	0.313	2	H2	2.719	1.125	357264	—	330144	—	—	—
5/16-18	UNC	0.313	2	H3	2.719	1.125	357280	330116	357286	173023	357298	173052
5/16-18	UNC	0.313	2	H5	2.719	1.125	357306	—	330145	—	—	—
5/16-18	UNC	0.313	3	H3	2.719	1.125	357322	330117	357328	330159	300016	357294
5/16-18	UNC	0.313	3	H5	2.719	1.125	357348	—	357344	—	—	—
5/16-18	UNC	0.313	3	H13	2.719	1.125	358510	—	—	—	—	—
5/16-24	UNF	0.313	2	H1	2.719	1.125	357363	—	—	—	—	—
5/16-24	UNF	0.313	2	H2	2.719	1.125	173005	—	—	—	—	—
5/16-24	UNF	0.313	2	H3	2.719	1.125	357405	330118	357401	—	357413	—
5/16-24	UNC	0.313	3	H4	2.719	1.125	330119	—	—	330160	—	—
3/8-16	UNC	0.375	3	H2	2.938	1.250	357504	—	330146	—	—	—
3/8-16	UNC	0.375	3	H3	2.938	1.250	357520	330120	357526	330161	173030	173053
3/8-16	UNC	0.375	3	H5	2.938	1.250	357546	—	357542	—	—	—
3/8-24	UNF	0.375	3	H1	2.938	1.250	357561	—	—	—	—	—
3/8-24	UNF	0.375	3	H2	2.938	1.250	357587	—	—	—	—	—
3/8-24	UNF	0.375	3	H3	2.938	1.250	357603	330121	357609	330162	173031	—
3/8-24	UNF	0.375	3	H4	2.938	1.250	357629	—	—	—	—	—
7/16-14	UNC	0.438	3	H2	3.156	1.438	357660	—	—	330216	—	—
7/16-14	UNC	0.438	3	H3	3.156	1.438	357686	330122	357682	—	173032	—
7/16-14	UNC	0.438	3	H5	3.156	1.438	357702	—	—	—	—	—
7/16-20	UNF	0.438	3	H3	3.156	1.438	357769	—	357765	330163	173033	—
7/16-20	UNF	0.438	3	H5	3.156	1.438	357785	—	—	—	—	—
1/2-13	UNC	0.500	3	H2	3.375	1.656	357819	—	—	—	—	—
1/2-13	UNC	0.500	3	H3	3.375	1.656	357827	330123	357823	330164	173034	173054
1/2-13	UNC	0.500	3	H5	3.375	1.656	357835	—	357831	—	—	—
1/2-20	UNF	0.500	3	H2	3.375	1.656	173006	—	—	—	—	—
1/2-20	UNF	0.500	3	H3	3.375	1.656	357868	330125	357864	330165	173035	—
1/2-20	UNF	0.500	3	H5	3.375	1.656	173007	—	—	—	—	—
9/16-12	UNC	0.563	3	H3	3.594	1.656	173008	—	—	—	—	—
9/16-12	UNC	0.563	3	H5	3.594	1.656	173009	—	—	—	—	—
9/16-18	UNF	0.563	3	H3	3.594	1.656	173010	—	—	—	—	—
5/8-11	UNC	0.625	3	H3	3.813	1.813	357926	330126	357922	330166	173036	—
5/8-11	UNC	0.625	3	H5	3.813	1.813	357934	—	357930	—	—	—
5/8-18	UNF	0.625	3	H3	3.813	1.813	357942	330128	—	—	—	—
3/4-10	UNC	0.750	3	H3	4.250	2.000	357967	330129	357963	330167	173037	—
3/4-10	UNC	0.750	3	H5	4.250	2.000	357975	—	—	—	—	—
3/4-16	UNF	0.750	3	H3	4.250	2.000	330130	—	—	—	—	—

Metric sizes on the next page



diameter & pitch	d ₁ in	number of flutes	D- limit	L mm	I mm	Order Number			
						Plug			Bottoming
						Bright	TiN	TiCN	Bright
M1.6 x 0.35	1.60	2	D3	1.625	0.313	360755	173015	—	173038
M1.8 x 0.35	1.80	2	D3	1.688	0.375	330131	—	—	—
M2 x 0.4	2.00	2	D3	1.750	0.438	360771	360774	—	173039
M2.2 x 0.45	2.20	2	D3	1.750	0.438	330132	—	—	—
M2.5 x 0.45	2.50	2	D3	1.813	0.500	360797	173016	—	173040
M3 x 0.5	3.00	2	D3	1.938	0.625	360805	360801	330168	173041
M3.5 x 0.6	3.50	2	D4	2.000	0.688	360821	—	—	—
M4 x 0.7	4.00	2	D4	2.125	0.750	360839	360835	330169	173042
M4.5 x 0.75	4.50	2	D4	2.375	0.875	360854	—	—	—
M5 x 0.8	5.00	2	D4	2.375	0.875	360862	360868	330170	173043
M6 x 1.0	6.00	2	D5	2.500	1.000	360888	360884	330171	173044
M7 x 1.0	7.00	2	D5	2.719	1.125	360904	—	—	—
M8 x 1.0	8.00	2	D5	2.719	1.125	330133	173017	—	173045
M8 x 1.25	8.00	2	D5	2.719	1.125	360920	360926	330172	173046
M10 x 1.25	10.00	3	D5	2.938	1.250	330134	173018	—	173047
M10 x 1.5	10.00	3	D6	2.938	1.250	360946	360942	330173	173048
M12 x 1.25	12.00	3	D5	3.375	1.656	330135	330147	—	—
M12 x 1.75	12.00	3	D6	3.375	1.656	360961	360967	330174	173049
M14 x 1.5	14.00	3	D6	3.594	1.656	330136	—	—	—
M14 x 2	14.00	3	D7	3.594	1.656	360995	—	—	—
M16 x 1.5	16.00	3	D6	3.813	1.813	330137	—	—	—
M16 x 2	16.00	3	D7	3.813	1.813	361019	—	—	—
M18 x 2.5	18.00	3	D7	4.031	1.813	173011	—	—	—
M20 x 2.5	20.00	3	D7	4.469	2.000	361050	—	—	—

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Machine Taps

303 SET Plug Hand Tap Set (10-Piece)

style	sizes
H3, 4 Flute	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20

HTGP

order number
330082



Spiral Point Taps

HT18 Jobber Drill, Plug Hand Tap Set (18-Piece)

style	sizes
Jobber (Bright)	#33, #29, #25, #21, #3, LET-I, LET-Q, 25/64, 29/64 6-40 H2 (3f), 8-36 H2 (4f), 10-24 H3 (4f), 10-32 H3 (4f), 1/4-28 H3 (4f), 5/16-24 H3 (4f), 3/8-24 H3 (4f), 7/16-20 H3 (4f), 1/2-20 H3 (4f)
Jobber (Bright)	5/16, 27/64, LET-F, LET-U, #7, #21, #25, #29, #36
H3, 4 Flute	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 6-32, 8-32, 10-24, 10-32

HTGP

order number
330001
330083



Spiral Flute Taps

HT18T Jobber Drill, Plug Hand Tap Set - TiN (18-Piece)

style	sizes
Jobber (Titanium)	5/16, 27/64, #7, #21, #25, #29, #36, LET-F, LET-U
H3, 4 Flute	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 6-32, 8-32, 10-24, 10-32

HTGP

order number
330084



Thread Forming Taps

GT18 Jobber Drill, Plug Spiral PT Tap Set (18-Piece)

style	sizes
Jobber (Bright)	5/16, 27/64, LET-F, LET-U, #7, #21, #25, #29, #36
H3, 2 Flute	1/4-20, 5/16-18, 6-32, 8-32, 10-24, 10-32
H3, 3 Flute	3/8-16, 7/16-14, 1/2-13

SPGP

order number
330085



Pipe Taps

HT36 Jobber Drill, Plug NC/NF Hand Tap Set (36-Piece)

style	sizes
Jobber (Bright)	5/16, 25/64, 27/64, 29/64, LET-F, LET-I, LET-Q, LET-U, #3, #7, #15, #16, #21, #25, #29, #33, #36
H2, 3 Flute	6-40
H2, 4 Flute	8-36
H3, 3 Flute	6-32
H3, 4 Flute	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 8-32, 10-24, 10-32, 12-24, 12-28,

HTGP

order number
330086



Dies

Technical Info

68 Screw Machine Drill, Plug Hand Tap Set (20-Piece)

style	sizes
Screw Mach (Bright)	5/16, 27/64, #7, #25, #29, #36, #39, #44, LET-F, LET-U
H2, 3 Flute	4-40, 5-40
H3, 3 Flute	6-32
H3, 4 Flute	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 8-32, 10-24

HTGP

order number
330087



Sets

HM18 Jobber Drill, Plug Hand Tap Set (18-Piece)

style	sizes
Jobber (Black Oxide)	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.5, 10.20
D3, 3 Flute	M2.5x0.45, M3x0.5
D4, 3 Flute	M3.5x0.6, M4x0.7,
D4, 4 Flute	M5x0.8
D5, 4 Flute	M6X1.0, M8X1.25,
D6, 4 Flute	M10x1.5, M12x1.75

HTGP

order number
330088



Index

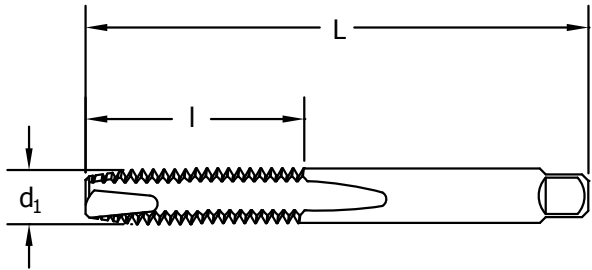


Style: **SPGP+5**

General Purpose
Spiral Point *plus 5* - Inch



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	d ₁ mm	number of flutes	H-limit	L in	I in	Order Number	
							Plug	
							Bright	Black Oxide
6-32	UNF	.1065	2	H11	2.000	.6875	313610	313616
8-32	UNF	.1360	2	H11	2.125	.7500	313611	313617
10-24	UNC	.1470	2	H11	2.375	.8750	313612	—
10-24	UNC	.1470	3	H11	2.375	.8750	—	313618
10-32	UNF	.1590	2	H11	2.375	.8750	313613	—
10-32	UNF	.1590	3	H11	2.375	.8750	—	313619
1/4-20	UNC	.2500	3	H11	2.500	1.000	313500	313555
1/4-28	UNF	.2500	3	H11	2.500	1.000	313501	313556
5/16-18	UNC	.3125	3	H11	2.719	1.125	313502	313557
5/16-24	UNF	.3125	3	H11	2.719	1.125	313503	313558
3/8-16	UNC	.3750	3	H11	2.938	1.250	313504	313559
3/8-24	UNF	.3750	3	H11	2.938	1.250	313505	313560
7/16-14	UNC	.4375	3	H11	3.156	1.438	313506	313561
7/16-20	UNF	.4375	3	H11	3.156	1.438	313507	313562
1/2-13	UNC	.5000	3	H11	3.375	1.656	313508	313563
1/2-20	UNF	.5000	3	H11	3.375	1.656	313509	313564
5/8-11	UNC	.6250	3	H11	3.813	1.813	313510	313565
5/8-18	UNF	.6250	3	H11	3.813	1.813	313511	313566
3/4-10	UNC	.7500	4	H11	4.250	2.000	313512	313567
3/4-16	UNF	.7500	4	H11	4.250	2.000	313513	313568

Style: **SPGP+5**

Metric - General Purpose
Spiral Point *plus 5* - Metric

d ₁ diameter & pitch	number of flutes	D-limit	L in	I in	Order Number	
					Plug	
					Bright	Black Oxide
M4x0.7	2	D11	2.125	.7500	313614	313620
M5x0.8	2	D11	2.375	.8750	313615	313621
M6x1	3	D11	2.500	1.000	313514	313569
M8x1	3	D11	2.719	1.125	313515	313570
M8x1.25	3	D11	2.719	1.125	313516	313571
M10x1	3	D11	2.938	1.25	313517	313572
M10x1.25	3	D11	2.938	1.25	313518	313573
M10x1.5	3	D11	2.938	1.25	313519	313574
M12x1.25	3	D11	3.375	1.656	313520	313575
M12x1.5	3	D11	3.375	1.656	313521	313576
M12x1.75	3	D11	3.375	1.656	313522	313577
M16x1.5	3	D11	3.813	1.813	313523	313578
M16x2	3	D11	3.813	1.813	313524	313579

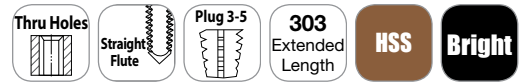
- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index

Spiral Point Taps for Through Holes



General Purpose Extended Length (6")

Style: **SPGPX**



Note
Tapping speeds - see
Technical Section.

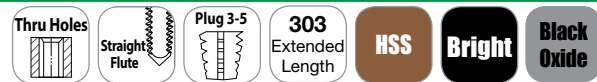


diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number
8-32	UNC	.1640	2	H3	6.000	.750	918932
10-24	UNC	.1900	2	H3	6.000	.875	918934
10-32	UNF	.1900	2	H3	6.000	.875	918935
1/4-20	UNC	.2500	2	H3	6.000	1.000	918936
1/4-28	UNF	.2500	2	H3	6.000	1.000	918937
5/16-18	UNC	.3125	2	H3	6.000	1.125	918938
5/16-24	UNF	.3125	2	H3	6.000	1.125	918939
3/8-16	UNC	.3750	3	H3	6.000	1.250	918940
3/8-24	UNF	.3750	3	H3	6.000	1.250	918941



General Purpose - Inch Extended Length (6") plus 5

Style: **SPGPX Plus 5**



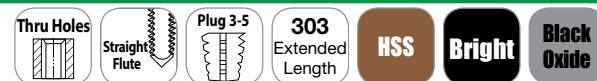
Note
Tapping speeds - see
Technical Section.

diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number	
							Bright	Black Oxide
1/4-20	UNC	.2500	3	H11	6"	1.0000	313544	313599
5/16-18	UNC	.3125	3	H11	6"	1.1250	313545	313600
3/8-16	UNC	.3750	3	H11	6"	1.2500	313546	313601
7/16-14	UNC	.4375	3	H11	6"	1.4375	313547	313602
1/2-13	UNC	.5000	3	H11	6"	1.6562	313548	313603
5/8-11	UNC	.6250	3	H11	6"	1.8125	313549	313604



General Purpose- Metric Extended Length (6") plus 5

Style: **SPGPX Plus 5**



Note
Tapping speeds - see
Technical Section.

d ₁ diameter & pitch	number of flutes	D-limit	L in	I in	Order Number	
					Bright	Black Oxide
M6x1	3	D11	6"	1.0000	313550	313605
M8x1.25	3	D11	6"	1.1250	313551	313606
M10x1.5	3	D11	6"	1.2500	313552	313607
M12x1.75	3	D11	6"	1.6562	313553	313608
M16x2	3	D11	6"	1.8125	313554	313609



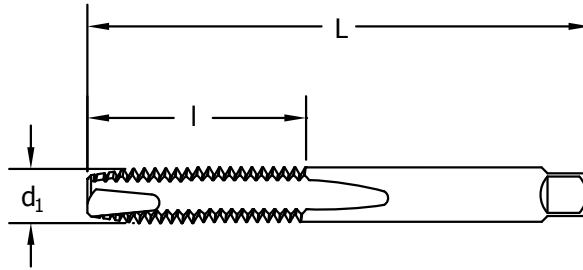
Style: **SPLS**

General Purpose

Low Shear



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number
4-40	UNC	.1120	2	H2	1.875	.563	330175
5-40	UNC	.1250	2	H2	1.938	.625	330176
6-32	UNC	.1380	2	H3	2.000	.688	330177
8-32	UNC	.1640	2	H3	2.125	.750	330178
10-24	UNF	.1900	2	H3	2.375	.875	330179
10-32	UNC	.1900	2	H3	2.375	.875	330180
12-24	UNC	.2160	2	H3	2.375	.938	330181
1/4-20	UNC	.2500	2	H1	2.500	1.000	330182
1/4-20	UNC	.2500	2	H2	2.500	1.000	330183
1/4-20	UNC	.2500	2	H3	2.500	1.000	330184
1/4-20	UNC	.2500	2	H11	2.500	1.000	330185
1/4-28	UNF	.2500	2	H3	2.500	1.000	330186
5/16-18	UNC	.3125	2	H3	2.719	1.125	330187
5/16-24	UNF	.3125	2	H3	2.719	1.125	330188
3/8-16	UNC	.3750	3	H3	2.938	1.250	330189
7/16-14	UNC	.4375	3	H3	3.156	1.438	330190
1/2-13	UNC	.5000	3	H3	3.375	1.656	330191
5/8-11	UNC	.6250	3	H3	3.813	1.813	330192

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

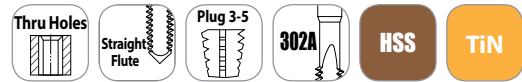
Sets

Index

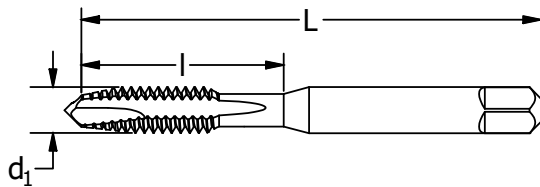
Spiral Point Taps for Through Holes

Spiral Point Taps
Aerospace Fasteners

Style: **SPAR**



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number
6-32	UNC	.1380	3	H3	2.000	.688	285057
8-32	UNC	.1640	3	H3	2.125	.750	285107
10-24	UNC	.1900	3	H3	2.375	.875	285156
10-32	UNF	.1900	3	H3	2.375	.875	285206
10-32	UNF	.1900	3	H5	2.375	.875	285222
1/4-20	UNC	.2500	3	H3	2.500	1.000	285255
1/4-28	UNF	.2500	3	H3	2.500	1.000	285354
1/4-28	UNF	.2500	3	H5	2.500	1.000	285370
5/16-18	UNC	.3125	3	H3	2.719	1.125	285404
5/16-24	UNF	.3125	3	H3	2.719	1.125	285453
5/16-24	UNF	.3125	3	H5	2.719	1.125	285479
3/8-16	UNC	.3750	3	H3	2.938	1.250	285503
3/8-16	UNC	.3750	3	H5	2.938	1.250	285552
3/8-24	UNF	.3750	3	H5	2.938	1.250	285628
7/16-14	UNC	.4375	3	H3	3.156	1.438	285651
7/16-20	UNF	.4375	3	H3	3.156	1.438	285701
1/2-13	UNC	.5000	3	H5	3.375	1.656	285801
1/2-20	UNF	.5000	3	H3	3.375	1.656	285859



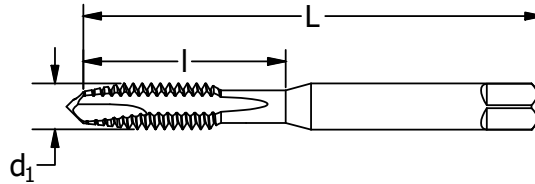
Style: **SPHD**

Spiral Point Taps
CNC Heavy-Duty



Note

Tapping speeds - see Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number	
							Bright	TiN
6-32	UNC	.1380	3	H3	2.000	.688	282108	280108
8-32	UNC	.1640	3	H3	2.125	.750	282157	280157
10-24	UNC	.1900	3	H3	2.375	.875	282207	280207
10-32	UNF	.1900	3	H3	2.375	.875	282256	280256
1/4-20	UNC	.2500	3	H3	2.500	1.000	282306	280306
1/4-20	UNC	.2500	3	H5	2.500	1.000	282355	280355
1/4-28	UNF	.2500	3	H3	2.500	1.000	282405	280405
5/16-18	UNC	.3125	3	H3	2.719	1.125	282454	280454
5/16-18	UNC	.3125	3	H5	2.719	1.125	282470	280470
5/16-24	UNF	.3125	3	H3	2.719	1.125	282504	280504
3/8-16	UNC	.3750	3	H3	2.938	1.250	282553	280553
3/8-16	UNC	.3750	3	H5	2.938	1.250	282603	280603
3/8-24	UNF	.3750	3	H3	2.938	1.250	282652	280652
1/2-13	UNC	.5000	3	H3	3.375	1.656	282801	280801
1/2-13	UNC	.5000	3	H5	3.375	1.656	282850	280850
1/2-20	UNF	.5000	3	H3	3.375	1.656	282901	280901
5/8-11	UNC	.6250	3	H3	3.813	1.813	282959	280959

Style: **SPHD**

Metric - Spiral Point Taps
CNC Heavy-Duty



diameter & pitch	d ₁ mm	number of flutes	D-limit	L in	I in	Order Number
						Bright
M6 x 1.0	6.00	3	D5	2.500	1.000	272550

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index




Tech Tip

Applying the proper lubricants in tapping operations can result in longer tap life, increased production, better workpiece size control, smoother and more accurate threads, less resharpening, and more efficient chip removal. Generally, for best tap performance, straight cutting oil should be used. For non-ferrous and non-metallic materials, a coolant or a cutting fluid (light oil or soluble oil) is recommended.

Often, machining centers are equipped with a coolant or a cutting fluid that contains enough water and oil to provide adequate cooling and lubrication for a variety of tools and workpieces. However, most soluble blends are not suitable for tapping applications. Tapping, especially with thread-forming taps, requires more lubrication than cooling. A coolant or cutting fluid might lack the lubrication necessary to obtain acceptable tool life and part finish. Get recommendations from a coolant specialist.

After you select the proper lubricant, choose the right method of application and pressure. For tapping, use multiple nozzles around the tap. Nozzles should be as close to the surface of the part as possible, positioned at an angle close to the axis of the tool, and should point directly into the hole to flush chips from the flutes. For horizontal tapping, where the tap is stationary and the workpieces rotate, consider using two streams of lubricant, one on each side of the tap.

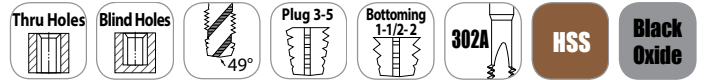
Whether you are tapping vertically, horizontally, or at an angle, make sure the lubricant reaches the cutting lands of the tap at all times, especially at the point or chamfered sections. Brushing or squirting oil or fluid onto the tap does not provide sufficient lubrication. In fact, heavy viscosity oil may cause the chips to stick or cling to a tap, increasing the chance of breakage. In addition, if the lubricant is automatically applied only on the forward motion of the tap, time the application of the lubricant so that it will reach the hole before the tap starts to cut, particularly with machines on which the cutting fluid is automatically shut off when the tap reverses. For maximum effectiveness, it is better to force the lubricant into the hole under pressure, which will vary depending on the tapping method, hole depth, and tapping speed.

Keep tapping lubricants as clean as possible using a filtering system or other equipment. Dust and other foreign particles can contaminate oil and decrease its effectiveness. Thoroughly clean machines and oil tanks when adding new lubricant and at regular intervals to ensure optimum results.

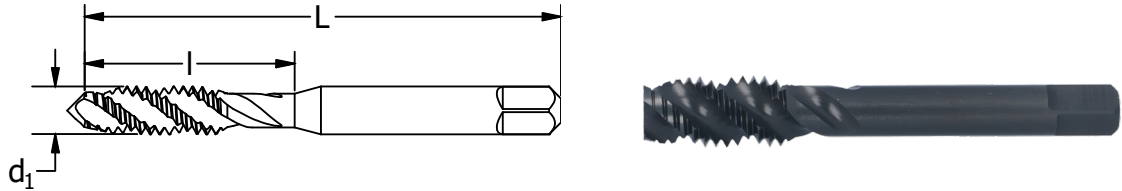


Style: SFHD

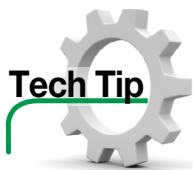
Spiral Flute
CNC Heavy-Duty



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number	
							plug	bottoming
							Black Oxide	Black Oxide
6-32	UNC	.1380	3	H3	2.000	.688	281957	282005
8-32	UNC	.1640	3	H3	2.125	.750	282054	282104
10-24	UNC	.1900	3	H3	2.375	.875	282062	282120
10-32	UNF	.1900	3	H3	2.375	.875	282153	282203
1/4-20	UNC	.2500	3	H3	2.500	1.000	282252	282302
1/4-28	UNF	.2500	3	H3	2.500	1.000	282351	282401
5/16-18	UNC	.3125	3	H3	2.719	1.125	282450	282501
5/16-24	UNF	.3125	3	H3	2.719	1.125	282468	282526
3/8-16	UNC	.3750	3	H3	2.938	1.250	282559	282609
3/8-24	UNF	.3750	3	H3	2.938	1.250	282567	282625
1/2-13	UNC	.5000	3	H3	3.375	1.656	282757	282807
1/2-20	UNF	.5000	3	H3	3.375	1.656	282765	282823



Tech Tip

Ground Thread Tap Limits

All standard ground thread taps made to USCTI Tables 327 and 329 will be marked **G** to designate ground thread. **G** will be followed by **H** to designate above basic or **L** for below basic and a numeral to designate the pitch diameter limits. For example: **G H3** indicates a ground thread tap with pitch diameter limits .0010" to .0015" over basic. See table at right.

For taps over 1-1/2" diameter with H or L limit numbers, divide the H or L limit number by 2 to get the amount (in thousandths of an inch) the maximum tap pitch diameter is over basic for the H series or under basic for the L series. In H series taps, the tolerance shown in USCTI Table 331, Column D, subtracted from the maximum pitch diameter will give the minimum pitch diameter. In L series taps the tolerance shown in Table 331, Column D, added to the minimum pitch diameter will give the maximum pitch diameter. These taps will be marked with the appropriate H or L limit number.

Pitch Diameter Limits

for taps through 1" diameter

- L1 = basic to basic - .0005
- H1 = basic to basic + .0005
- H2 = basic + .0005 to basic + .0010
- H3 = basic + .0010 to basic + .0015
- H4 = basic + .0015 to basic + .0020
- H5 = basic + .0020 to basic + .0025
- H6 = basic + .0025 to basic + .0030

for taps over 1" diameter through 1-1/2" diameter

- H4 = basic + .0010 to basic + .0020

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index

Spiral Flute Taps for Blind Holes

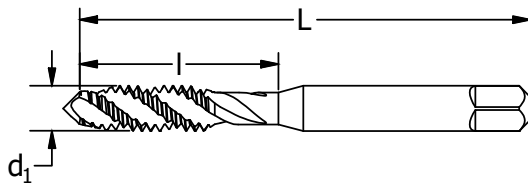


General Purpose Spiral Flute High-Spiral - Inch

Style: **SFGP**



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	in	number of flutes	H- limit	in	in	Order Number			
							Plug		Bottoming	
							Bright	TiN	Bright	TiN
4-40	UNC	.1120	2	H2	1.875	.563	367149	—	367156	330202
6-32	UNC	.1380	2	H3	2.000	.688	367222	330193	367230	330203
8-32	UNC	.1640	3	H3	2.125	.750	367263	330194	367271	330204
10-24	UNC	.1900	3	H3	2.375	.875	367305	330195	367313	—
10-32	UNF	.1900	3	H3	2.375	.875	367321	330196	367339	330205
1/4-20	UNC	.2500	3	H3	2.500	1.000	367909	—	367917	367913
1/4-28	UNF	.2500	3	H3	2.500	1.000	367925	—	367933	—
5/16-18	UNC	.3125	3	H3	2.719	1.125	367941	—	367958	—
5/16-24	UNF	.3125	3	H3	2.719	1.125	367966	—	367974	—
3/8-16	UNC	.3750	3	H3	2.938	1.250	367982	—	367990	—
3/8-24	UNF	.3750	3	H3	2.938	1.250	368006	—	368014	—
1/2-13	UNC	.5000	3	H3	3.375	1.656	368063	—	368071	—
1/2-20	UNF	.5000	3	H3	3.375	1.656	368089	—	368097	—



General Purpose Spiral Flute High-Spiral - Metric

Style: **SFGP**

diameter & pitch	d ₁ mm	number of flutes	D- limit	L in	I in	Order Number			
						Plug		Bottoming	
						Bright	TiCN	Bright	TiCN
M3 x 0.5	3.00	2	D3	1.938	.625	366110	—	366112	330206
M4 x 0.7	4.00	3	D4	2.125	.750	366130	330197	366132	330207
M5 x 0.8	5.00	3	D4	2.375	.875	366140	330198	366142	330208
M6 x 1.0	6.00	3	D5	2.500	1.000	366150	330199	366152	330209
M8 x 1.25	8.00	3	D5	2.719	1.125	366160	330200	366162	330210
M10 x 1.5	10.00	3	D6	2.938	1.250	366170	330201	366172	330211
M12 x 1.75	12.00	3	D6	3.375	1.656	366180	—	366182	—



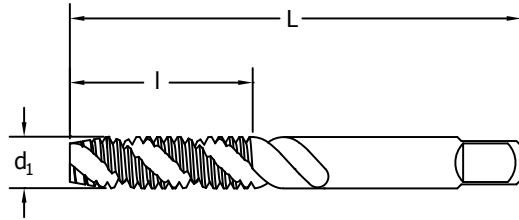
Style: **SFGP Plus 5**

General Purpose Spiral Flute

Plus 5 - Inch



Note
Tapping speeds - see
Technical Section.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	Order Number	
							Semi-Bottoming	
							Bright	Black Oxide
1/4-20	UNC	.2500	3	H11	2.500	1.000	313525	313580
1/4-28	UNF	.2500	3	H11	2.500	1.000	313526	313581
5/16-18	UNC	.3125	3	H11	2.719	1.125	313527	313582
5/16-24	UNF	.3125	3	H11	2.719	1.125	313528	313583
3/8-16	UNC	.3750	3	H11	2.938	1.250	313529	313584
3/8-24	UNF	.3750	3	H11	2.938	1.250	313530	313585
7/16-14	UNC	.4375	3	H11	3.156	1.438	313531	313586
7/16-20	UNF	.4375	3	H11	3.156	1.438	313532	313587
1/2-13	UNC	.5000	3	H11	3.375	1.656	313533	313588
1/2-20	UNF	.5000	3	H11	3.375	1.656	313534	313589
5/8-11	UNC	.6250	3	H11	3.813	1.813	313535	313590
5/8-18	UNF	.6250	3	H11	3.813	1.813	313536	313591
3/4-10	UNC	.7500	4	H11	4.250	2.000	313537	313592
3/4-16	UNF	.7500	4	H11	4.250	2.000	313538	313593

Style: **SFGP Plus 5**

General Purpose Spiral Flute

Plus 5 - Metric



d ₁ diameter & pitch	number of flutes	D-limit	L in	I in	Order Number	
					Semi-bottoming	
					Bright	Black Oxide
M6x1	3	D11	2.500	1.00	313539	313594
M8x1.25	3	D11	2.719	1.125	313540	313595
M10x1.5	3	D11	2.938	1.25	313541	313596
M12x1.75	3	D11	3.375	1.656	313542	313597
M16x2	3	D11	3.813	1.813	313543	313598

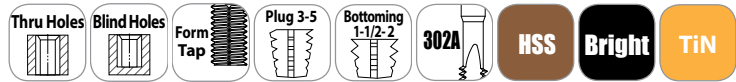
- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index

Thread Forming Taps

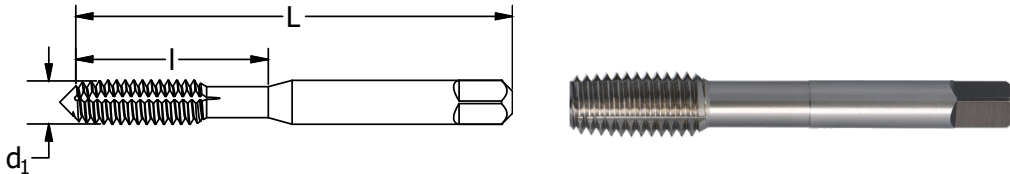
General Purpose Thread Forming



Styles: **FTGP**



Note
Modify tapping speeds listed in Technical Section as follows: double the speeds versus thread cutting taps.
* #0 - #3: 302 blank style.



Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index

diameter & pitch	thread form	in	H-limit	Order Number							
				Plug		Bottoming					
				Bright	TiN	Bright	TiN				
*0-80	UNF	.0600	H2	1.625	.313	-	-	330214	-		
*2-56	UNC	.0860	H2	1.750	.438	-	-	330215	-		
4-40	UNC	.1120	H3	1.875	.563	289004	-	289012	-		
5-40	UNC	.1250	H3	1.938	.625	289087	-	289095	-		
6-32	UNC	.1380	H3	2.000	.688	289202	287004	289210	287053		
6-32	UNC	.1380	H5	2.000	.688	289228	287103	289236	287152		
8-32	UNC	.1640	H3	2.125	.750	289269	287202	289277	287251		
8-32	UNC	.1640	H5	2.125	.750	289285	287301	289293	287350		
10-24	UNC	.1900	H4	2.375	.875	289368	287400	289376	287459		
10-24	UNC	.1900	H6	2.375	.875	289384	287509	289392	287558		
10-32	UNF	.1900	H4	2.375	.875	289426	-	289434	-		
10-32	UNF	.1900	H6	2.375	.875	289442	287608	289459	287657		
1/4-20	UNC	.2500	H4	2.500	1.000	289525	-	289533	-		
1/4-20	UNC	.2500	H6	2.500	1.000	289541	287707	289558	287756		
1/4-28	UNF	.2500	H4	2.500	1.000	289582	-	289590	-		
5/16-18	UNC	.3125	H5	2.719	1.125	289640	-	289657	-		
5/16-18	UNC	.3125	H7	2.719	1.125	289665	287905	289673	287954		
3/8-16	UNC	.3750	H7	2.938	1.250	289780	288101	289798	288150		
3/8-24	UNF	.3750	H5	2.938	1.250	330212	-	-	-		
3/8-24	UNF	.3750	H7	2.938	1.250	330213	-	-	-		
1/2-13	UNC	.5000	H8	3.375	1.656	289988	288408	289996	288457		

Metric - General Purpose Thread Forming

Style: **FTGP**

diameter & pitch	d ₁ mm	D-limit	L in	l in	Order Number			
					Plug		Bottoming	
					Bright	TiN	Bright	TiN
M3 x 0.5	3.00	D5	1.938	.625	291001	291006	291018	291014
M4 x 0.7	4.00	D6	2.125	.750	291083	291089	291091	291097
M5 x 0.8	5.00	D7	2.375	.875	291125	291123	291133	291139
M6 x 1.0	6.00	D8	2.500	1.000	291166	291162	291174	291170
M8 x 1.25	8.00	D9	2.719	1.125	291240	291246	291257	291253
M10 x 1.5	10.00	D10	2.938	1.250	291176	291287	291178	291295



Style: **PTT**

Taper Pipe
NPT/NPTF Medium Hook



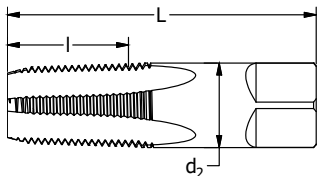









Note
Tapping speeds - see
Technical Section.



Order Number

diameter & pitch	d ₂ in	number of flutes	L in	I in	NPT		NPTF	
					Bright	TiN	Bright	TiN
1/16-27	.3125	4	2.1250	0.6875	385307	385328	385323	385329
*1/8-27	.3125	4	2.1250	0.7500	385331	385357	385356	385359
1/8-27	.4375	4	2.1250	0.7500	385364	385385	385380	385386
1/4-18	.5625	4	2.4375	1.0625	385398	385409	385413	385410
3/8-18	.7000	4	2.5625	1.0625	385422	385443	385448	385444
1/2-14	.6875	4	3.1250	1.3750	385455	385458	385471	385477
3/4-14	.9063	5	3.2500	1.3750	385489	385500	385505	385501
1 - 11-1/2	1.1250	5	3.7500	1.7500	385513	385534	385539	385536
1-1/4 - 11-1/2	1.3125	5	4.0000	1.7500	385547	385680	385562	—
1-1/2 - 11-1/2	1.5000	7	4.2500	1.7500	385570	385681	—	—
2 - 11-1/2	1.8750	7	4.5000	1.7500	385604	385682	—	—

* small shank

Style: **PTT**

Taper Pipe Set
NPT/NPTF Medium Hook



order number	
NPT Pipe Tap: 1/8 - 1" NPT	353768

Tech Tip

Tap Drill Recommendations - NPT, NPTF, NPSM, NPSC, NPSF Sizes

Color Code:

Wire Gage - Purple
Fractional - Red,
Letter - Blue,
and
Metric Sizes - Green

Nominal Tap Size & Pitch	NPT & NPTF		NPSM	NPSC	NPSF
	w/o reamer	w/ reamer			
1/16 - 27	C (.242)	A (.234)	—	1/4	D (.246)
1/8 - 27	Q (.332)	21/64	T (.358)	Q	R (.339)
1/4 - 18	7/16	27/64	15/32	7/16	7/16
3/8 - 18	9/16	9/16	.603*	37/64	37/64
1/2 - 14	45/64	11/16	19,0mm	23/32	.705*
3/4 - 14	29/32	57/64	61/64	59/64	59/64
1 - 11 1/2	1-9/64	1-1/8	1-13/64	1-5/32	1-5/32
1 1/4 - 11 1/2	1-31/64	1-15/32	1.546*	1-1/2	—
1 1/2 - 11 1/2	1-23/32	1-45/64	1-25/32	1-47/64	—
2 - 11 1/2	2-3/16	2-11/64	2-1/4	2-1/4	—

*special

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index



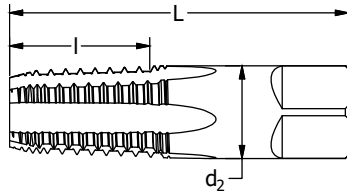
Taper Pipe

NPT/NPTF Medium Hook Interrupted

Style: **PTTI**



Note
Tapping speeds - see Technical Section.



diameter & pitch	d ₂ in	number of flutes	L in	I in	Order Number		
					NPT	NPTF	
					Bright	Bright	TiN
*1/8-27	.3125	5	2.125	.750	—	385752	—
1/8-27	.4375	5	2.125	.750	385737	385729	385755
1/4-18	.5625	5	2.438	1.063	385760	385786	385789
3/8-18	.7000	5	2.563	1.063	385794	385810	385813
1/2-14	.6875	5	3.125	1.375	385828	385844	385847
3/4-14	.9063	5	3.250	1.375	385851	385877	385870
1-11-1/2	1.1250	5	3.750	1.750	385885	—	—

*small shank

Tech Tip

Pipe Taps

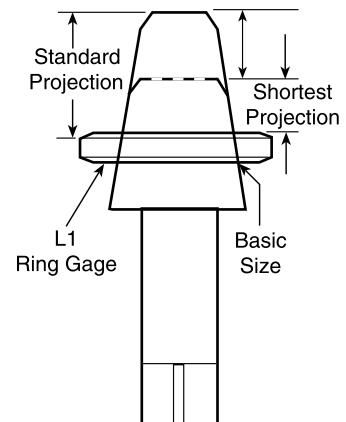
General purpose pipe taps are appropriate for threading a wide variety of materials, both ferrous and non-ferrous.

Ground thread pipe taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Form (NPFT). NPT threads require the use of a sealer, like Teflon® tape or pipe compound. Dryseal taps are used to tap fittings which will give a pressure-tight joint without the use of a sealer.

The nominal size of a pipe tap is that of the pipe fitting to be tapped, not the actual size of the tap. The thread tapers 3/4" per foot.

All pipe taps are furnished with 2 1/2 to 3-1/2 thread chamfer.

Short projection pipe taps are made with a projection shorter than standard for taper pipe tapping where the depth of tapping is limited. Special short projection pipe taps and left hand pipe taps are available as specials.





Style: **PTS**

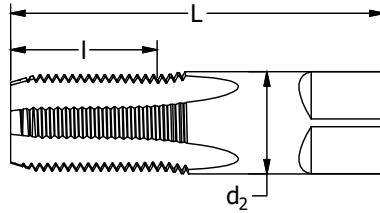
NPS/NPSM/NPSC/NPSF
Medium Hook Straight Pipe



P

Mod 3-5 311 NPS NPSF Dryseal NPSM NPSC HSS Bright

Note
Tapping speeds - see Technical Section.



diameter & pitch	d ₂ in	number of flutes	L in	I in	Order Number	
					NPS/NPSM/NPSC	NPSF
*1/8-27	.3125	4	2.125	.750	—	387212
1/8-27	.4375	4	2.125	.750	387113	387220
1/4-18	.5625	4	2.438	1.063	387121	387238
3/8-18	.7000	4	2.563	1.063	387139	387246
1/2-14	.6875	4	3.125	1.375	387147	387253

* small shank

Style: **ELPTT**

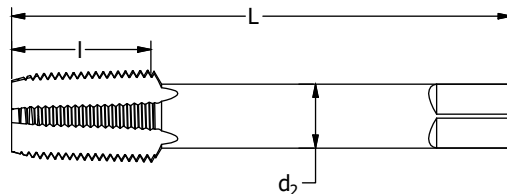
CNC Extra Length Med. Hook
with Machine Tap Shanks



P

Mod 3-5 NPT NPTF Dryseal 3/4" / 12" HSS Bright TiN

Note
Tapping speeds - see Technical Section.



diameter & pitch	d ₂ in	number of flutes	L in	I in	Order Number		
					NPT	NPTF	
					Bright	TiN	
1/8-27	0.318	4	3.000	.750	384524	386008	386129
1/4-18	0.480	4	3.500	1.063	384525	386024	386152
3/8-18	0.480	4	3.750	1.063	384526	386040	386186
1/2-14	0.480	4	4.375	1.375	384527	—	—
3/4-14	0.800	5	4.625	1.375	384528	—	—
1-11-1/2	0.800	5	5.250	1.750	384529	—	—

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index

Hexagon Dies

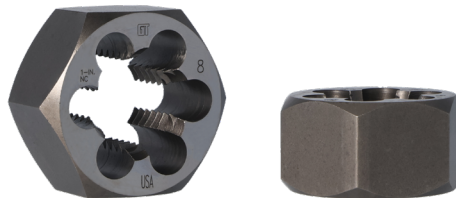


Inch - Carbon Steel Re-threading Dies

Style: 377



Note
For dressing over bruised or rusty threads.
No special holder required; use standard wrenches.



die diameter TPI & series	decimal equivalent	length across flats in	thickness in	Order Number Carbon Steel
#4-40 UNC	.1120	.6250	.2500	403101
#4-48 UNF	.1120	.6250	.2500	403102
#6-32 UNC	.1380	.6250	.2500	403103
#8-32 UNC	.1640	.6250	.2500	403104
#10-24 UNC	.1900	.6250	.2500	403105
#10-32 UNF	.1900	.6250	.2500	403106
1/4-20 UNC	.2500	.6250	.2500	403108
1/4-28 UNF	.2500	.6250	.2500	403116
5/16-18 UNC	.3125	.6875	.3125	403124
5/16-24 UNF	.3125	.6875	.3125	403132
3/8-16 UNC	.3750	.7812	.3750	403140
3/8-24 UNF	.3750	.7812	.3750	403157
7/16-14 UNC	.4375	.8750	.4375	403165
7/16-20 UNF	.4375	.8750	.4375	403173
1/2-13 UNC	.5000	1.0625	.5000	403181
1/2-20 UNF	.5000	1.0625	.5000	403199
9/16-12 UNC	.5625	1.0625	.5000	403207
9/16-18 UNF	.5625	1.0625	.5000	403215
5/8-11 UNC	.6250	1.2500	.6250	403223
5/8-18 UNF	.6250	1.2500	.6250	403231
11/16-11 UNS	.6875	1.4375	.7500	403249
11/16-16 UNS	.6875	1.4375	.7500	403256
3/4-10 UNC	.7500	1.4375	.7500	403264
3/4-16 UNF	.7500	1.4375	.7500	403272
7/8-9 UNC	.8750	1.6250	.8750	403280
7/8-14 UNF	.8750	1.6250	.8750	403298
1-8 UNC	1.0000	1.8125	1.0000	403306
1-12 UNF	1.0000	1.8125	1.0000	403314
1-14 UNS	1.0000	1.8125	1.0000	403322
1-1/8-7 UNC	1.1250	2.0000	1.0000	403330
1-1/8-12 UNF	1.1250	2.0000	1.0000	403348
1-1/4-7 UNC	1.2500	2.1875	1.0000	403355
1-1/4-12 UNF	1.2500	2.1875	1.0000	403363
1-3/8-6 UNC	1.4100	2.3750	1.0000	403371
1-3/8-12 UNF	1.4100	2.3750	1.0000	403389
1-1/2-6 UNC	1.5000	2.5625	1.0000	403397
1-1/2-12 UNF	1.5000	2.5625	1.0000	403405

Taper - Carbon Steel Re-threading Dies

Style: 377

die diameter TPI & series	decimal equivalent	length across flats in	thickness in	Order Number Carbon Steel
1/8-27 NPT	.1250	1.0625	.3750	411895
1/4-18 NPT	.2500	1.2500	.6250	411896
3/8-18 NPT	.3750	1.4375	.6250	411897
1/2-14 NPT	.5000	1.6250	.7500	411898
3/4-14 NPT	.7500	2.0000	.8125	411899
1 - 11 1/2 NPT	1.0000	2.3750	1.0000	411900

metric sizes on next page



Style: 377

Metric - Carbon Steel
Re-threading Dies



die diameter & TPI	decimal equivalent	mm equivalent	length across flats in	thickness in	Order Number Carbon Steel
M3 x 0.5	.1180	3.00	.6250	.2500	404806
M4 x 0.7	.1580	4.00	.6250	.2500	404807
M5 x 0.8	.1969	5.00	.5938	.2500	404808
M6 x 1	.2362	6.00	.5938	.2500	404809
M8 x 1.25	.3150	8.00	.6875	.3125	404833
M10 x 1.5	.3937	10.00	.8750	.4375	404858
M12 x 1.75	.4724	12.00	1.0125	.5000	404882
M14 x 2	.5512	14.00	1.0125	.5000	404916
M16 x 2	.6299	16.00	1.2500	.6250	404932
M20 x 2.5	.7874	20.00	1.6250	.8750	404973

Style: 377

Carbon Steel
Re-threading Dies SETS



set number	number of sizes	die sizes		order number
481	8	1/4-20 NC	1/2-13 NC	403512
		5/16-18 NC	9/16-12 NC	
		3/8-16 NC	5/8-11 NC	
		7/16-14 NC	3/4-10 NC	
482	8	1/4-28 NF	1/2-20 NF	403553
		5/16-24 NF	9/16-18 NF	
		3/8-24 NF	5/8-18 NF	
		7/16-20 NF	3/4-16 NF	
490	10	1/4-20 NC	9/16-12 NC	403520
		5/16-18 NC	5/8-11 NC	
		3/8-16 NC	3/4-10 NC	
		7/16-14 NC	7/8-9 NC	
		1/2-13 NC	1-8 NC	
492	20	1/4-20 NC	1/4-28 NF	403595
		5/16-18 NC	5/16-24 NF	
		3/8-16 NC	3/8-24 NF	
		7/16-14 NC	7/16-20 NF	
		1/2-13 NC	1/2-20 NF	
		9/16-12 NC	9/16-18 NF	
		5/8-11 NC	5/8-18 NF	
		3/4-10 NC	3/4-16 NF	
		7/8-9 NC	7/8-14 NF	
		1-8 NC	1-14 NS	
485	7	M6 x 1	M14 x 2	403522
		M8 x 1.25	M16 x 2	
		M10 x 1.5	M20 x 2.5	
		M12 x 1.75		

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Note

Use in hand-held die stocks or machine holders.

Chamfered on both faces, 2 to 3 threads on one side and 1 to 2-1/2 threads on the other for threading close to the shoulder.

Beveled screw slot to remove screw when die is used in a machine holder.

Pipe and Metric sizes after inch.



die diameter TPI & series	decimal equivalent	outside diameter in	thickness in	Order Number	
				style 382	style 6382
				Carbon Steel	High-Speed Steel
0-80 UNF	.0600	.8125	.2500	401003	—
1-64 UNC	.0730	.8125	.2500	401029	—
1-72 UNF	.0730	.8125	.2500	401037	—
2-56 UNC	.0860	.8125	.2500	401045	—
2-64 UNF	.0860	.8125	.2500	401052	—
3-48 UNC	.0990	.8125	.2500	401060	—
3-56 UNF	.0990	.8125	.2500	401078	—
4-40 UNC	.1120	.8125	.2500	401102	—
4-48 UNF	.1120	.8125	.2500	401110	—
5-40 UNC	.1250	.8125	.2500	401128	400013
5-44 UNF	.1250	.8125	.2500	401129	400021
6-32 UNC	.1380	.8125	.2500	401168	400039
6-32 UNC	.1380	1.000	.3750	401409	400138
6-40 UNF	.1380	.8125	.2500	401169	400047
8-32 UNC	.1640	.8125	.2500	401177	400054
8-32 UNC	.1640	1.0000	.3750	401433	400145
8-36 UNF	.1640	.8125	.2500	401178	400062
10-24 UNC	.1900	.8125	.2500	401201	400070
10-24 UNC	.1900	1.0000	.3750	401466	400179
10-32 UNF	.1900	.8125	.2500	401227	400088
10-32 UNF	.1900	1.0000	.3750	401482	400187
12-24 UNC	.2160	.8125	.2500	401242	400096
12-24 UNC	.2160	1.0000	.3750	401490	400195
12-28 UNF	.2160	.8125	.2500	401243	400104
1/4-20 UNC	.2500	.8125	.2500	401244	400211
1/4-20 UNC	.2500	1.0000	.3750	401979	400302
1/4-20 UNC	.2500	1.5000	.5000	402209	400401
1/4-20 UNC	.2500	2.0000	.6250	402407	—
1/4-28 UNF	.2500	.8125	.2500	—	400229
1/4-28 UNF	.2500	1.0000	.3750	401995	400310
1/4-28 UNF	.2500	1.5000	.5000	402225	400419
1/4-28 UNF	.2500	2.0000	.6250	402423	—
5/16-18 UNC	.3125	.8125	.2500	—	400237
5/16-18 UNC	.3125	1.0000	.3750	402019	400328
5/16-18 UNC	.3125	1.5000	.5000	402241	400427
5/16-18 UNC	.3125	2.0000	.6250	402449	—
5/16-24 UNF	.3125	.8125	.2500	—	400245
5/16-24 UNF	.3125	1.0000	.3750	402027	400336
5/16-24 UNF	.3125	1.5000	.5000	402258	400435
5/16-24 UNF	.3125	2.0000	.6250	402456	—

continued on next page



die diameter TPI & series		decimal equivalent	outside diameter in	thickness in	Order Number	
					style 382	style 6382
					Carbon Steel	High-Speed Steel
3/8-16	UNC	.3750	1.0000	.3750	402043	400344
3/8-16	UNC	.3750	1.5000	.5000	402274	400445
3/8-16	UNC	.3750	2.0000	.6250	402472	—
3/8-24	UNF	.3750	1.0000	.3750	402050	400351
3/8-24	UNF	.3750	1.5000	.5000	402282	400450
3/8-24	UNF	.3750	2.0000	.6250	402480	—
7/16-14	UNC	.4375	1.0000	.3750	402068	400369
7/16-14	UNC	.4375	1.5000	.5000	402290	400468
7/16-14	UNC	.4375	2.0000	.6250	402498	—
7/16-20	UNF	.4375	1.0000	.3750	402076	400377
7/16-20	UNF	.4375	1.5000	.5000	402308	400476
7/16-20	UNF	.4375	2.0000	.6250	402506	—
1/2-13	UNC	.5000	1.0000	.3750	402077	—
1/2-13	UNC	.5000	1.5000	.5000	402316	400484
1/2-13	UNC	.5000	2.0000	.6250	402514	—
1/2-20	UNF	.5000	1.0000	.3750	402078	—
1/2-20	UNF	.5000	1.5000	.5000	402324	400492
1/2-20	UNF	.5000	2.0000	.6250	402522	—
9/16-12	UNC	.5625	1.5000	.5000	402332	400500
9/16-12	UNC	.5625	2.0000	.6250	402530	—
9/16-18	UNF	.5625	1.5000	.5000	402340	400518
9/16-18	UNF	.5625	2.0000	.6250	402548	—
5/8-11	UNC	.6250	1.5000	.5000	402357	400526
5/8-11	UNC	.6250	2.0000	.6250	402555	400609
5/8-11	UNC	.6250	2.5000	.7500	402746	—
5/8-18	UNF	.6250	1.5000	.5000	402365	400534
5/8-18	UNF	.6250	2.0000	.6250	402563	400617
3/4-10	UNC	.7500	1.5000	.5000	402370	—
3/4-10	UNC	.7500	2.0000	.6250	402597	400625
3/4-10	UNC	.7500	2.5000	.7500	402787	—
3/4-16	UNF	.7500	1.5000	.5000	402377	—
3/4-16	UNF	.7500	2.0000	.6250	402605	400633
3/4-16	UNF	.7500	2.5000	.7500	402795	—
7/8-9	UNC	.8750	2.0000	.6250	402613	400641
7/8-9	UNC	.8750	2.5000	.7500	402803	—
7/8-14	UNF	.8750	2.0000	.6250	402621	400658
7/8-14	UNF	.8750	2.5000	.7500	402811	—
1-8	UNC	1.0000	2.0000	.6250	402625	—
1-8	UNC	1.0000	2.5000	.7500	402829	—
1-8	UNC	1.0000	3.0000	1.0000	402902	—
1-12	UNF	1.0000	2.0000	.6250	402627	—
1-12	UNF	1.0000	2.5000	.7500	402837	—
1-12	UNF	1.0000	3.0000	1.0000	402910	—
1-14	UNF	1.0000	2.0000	.7500	402630	—
1-1/8-7	UNC	1.1250	3.0000	1.0000	402936	—
1-1/8-12	UNF	1.1250	3.0000	1.0000	402944	—
1-1/4-7	UNC	1.2500	3.0000	1.0000	402951	—
1-1/4-12	UNF	1.2500	3.0000	1.0000	402969	—
1-3/8-6	UNC	1.3750	3.0000	1.0000	402977	—
1-3/8-12	UNF	1.3750	3.0000	1.0000	402985	—
1-1/2-6	UNC	1.5000	3.0000	1.0000	402993	—
1-1/2-12	UNF	1.5000	3.0000	1.0000	403009	—

pipe and metric sizes continued on next page



Round Adjustable Dies



Pipe - Round Adjustable Dies
383 - Carbon Steel / 6382 - HSS

Styles: **383**



Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index

die diameter TPI & series	decimal equivalent	outside diameter in	thickness in	Order Number	
				style 383	Carbon Steel
1/8-27 NPT	.1250	1.0000	.3750		405202
1/8-27 NPT	.1250	1.5000	.5000		405251
1/4-18 NPT	.2500	1.5000	.5000		405269
1/4-18 NPT	.2500	2.0000	.6250		405301
3/8-18 NPT	.3750	1.5000	.5000		405277
3/8-18 NPT	.3750	2.0000	.6250		405319
1/2-14 NPT	.5000	2.0000	.6250		405327

Pipe size round adjustable dies are not split.

Metric - Round Adjustable Dies

6382 - HSS

Styles: **6382** (continued)

die diameter TPI & series	decimal equivalent	mm equivalent	outside diameter in	thickness in	Order Number	
					style 6382	High-Speed Steel
M2.5 x 0.45	.0984	2.50	.8125	.2500		415721
M3 x 0.5	.1181	3.00	.8125	.2500		415724
M3.5 x 0.6	.1378	3.50	.8125	.2500		415732
M4 x 0.7	.1575	4.00	.8125	.2500		415737
M4.5 x 0.75	.1772	4.50	.8125	.2500		415742
M5 x 0.8	.1969	5.00	.8125	.2500		415747
M6 x 1	.2362	6.00	.8125	.2500		415757
M6 x 1	.2362	6.00	1.0000	.3750		415801
M7 x 1	.2756	7.00	1.0000	.3750		415807
M8 x 1.25	.3150	8.00	1.0000	.3750		415813
M10 x 1.5	.3937	10.00	1.0000	.3750		415824
M12 x 1.75	.4724	12.00	1.0000	.3750		415833
M14 x 2	.5512	14.00	1.5000	.5000		415880
M16 x 2	.6300	16.00	1.5000	.5000		415889
M18 x 2.5	.7087	18.00	1.5000	.5000		415896
M20 x 2.5	.7874	20.00	1.5000	.5000		415901

Die Stock

Round Adjustable Dies

Styles: **1750** and **1790**

Style **1750** holds round adjustable dies with three adjusting screws.



product number	die O.D.	overall length	Order Number	
			style 1750	
#2	13/16	7		423008
#3	1	9-1/4		423009
#5	1-1/2	13-1/4		423010
#6	2	15-3/8		420555
#7	2-1/2	19-1/2		420563
#8	3	23		420571



SET

Cost Saving Sets

Round Adjustable Dies
Adjustable Die Sets
Tap and Round



OK Jr. Tap & Die Sets with HSS Production Hand Taps and Carbon Steel Round Adjustable Dies - Inch

set number	no. of sizes	tap and die sizes	tap wrench	die stock	order number
17	7	4-40 UNC	329	10-24 UNC	423001
		6-32 UNC		10-32 UNF	
		8-32 UNC		12-24 UNC	
18	5	1/4-20 UNC	333	3/8-16 UNC	423002
		5/16-18 UNC		7/16-14 UNC	
				1/2-13 UNC	
25	8	0-80 UNF	329	4-40 UNC	423003
		1-72 UNF		6-32 UNC	
		2-56 UNC		8-32 UNC	
		3-48 UNC		10-24 UNC	
T4	8	2-56 UNC	0	8-32 UNC	1851
		3-48 UNC		10-24 UNC	
		4-40 UNC		10-32 UNF	
		6-32 UNC		12-24 UNC	
T6	20	1/4-20 UNC	7	1/4-28 UNF	1852
		5/16-18 UNC		5/16-24 UNF	
		3/8-16 UNC		3/8-24 UNF	
		7/16-14 UNC		7/16-20 UNF	
		1/2-13 UNC		1/2-20 UNF	
		9/16-12 UNC		9/16-18 UNF	
		5/8-11 UNC		5/8-18 UNF	
		3/4-10 UNC		3/4-16 UNF	
		7/8-9 UNC		7/8-14 UNF	
		1-8 UNC		1-12 UNF	
28	11	1/4-20 UNC	333	1/4-28 UNF	1
		5/16-18 UNC		5/16-24 UNF	
		3/8-16 UNC		3/8-24 UNF	
		7/16-14 UNC		7/16-20 UNF	
		1/2-13 UNC		1/2-20 UNF	
32	21	pipe size	15	1/8-27 (short shank)	423005
		1/4-20 UNC		1/4-28 UNF	
		5/16-18 UNC		5/16-24 UNF	
		3/8-16 UNC		3/8-24 UNF	
		7/16-14 UNC		7/16-20 UNF	
		1/2-13 UNC		1/2-20 UNF	
		9/16-12 UNC		9/16-18 UNF	
		5/8-11 UNC		5/8-18 UNF	
		3/4-10 UNC		3/4-16 UNF	
		7/8-9 UNC		7/8-14 UNF	
1-8 UNC	1-14 UNS				
pipe size	1/8-27 (long shank)				

continued on next column

OK Jr. Tap & Die Sets with HSS Production Hand Taps and Carbon Steel Round Adjustable Dies - Inch

set number	no. of sizes	tap and die sizes	tap wrench	die stock	screw-driver	order number
33	28 Taps 15 Dies	4-40 UNC	329	3/8-16 UNC	14	423006
		6-32 UNC		3/8-24 UNF		
		8-32 UNC		7/16-14 UNC		
		10-24 UNC		7/16-20 UNF		
		10-32 UNF		1/2-13 UNC		
		12-24 UNC		1/2-20 UNF		
		1/4-20 UNC		9/16-12 UNC		
		1/4-28 UNF		9/16-18 UNF		
		5/16-18 UNC		5/8-18 UNF		
		5/16-24 UNF		3/4-16 UNF		
	7/8-14 UNF					
	1-14 UNS					
	pipe	1/8-27 NPT				
		1/4-18NPT				
		3/8-18 NPT				
		1/2-14 NPT				

Tap & Die Sets with Production Hand Taps and HSS Round Adjustable Dies - Metric

set number	no. of sizes	tap and die sizes	tap wrench	die stock	screw-driver	order number
48	7	M2.5 x 0.45	333	1790	300	420365
		M3 x 0.5				
		M3.5 x 0.6				
		M4 x 0.7				
		M4.5 x 0.75				
		M5 x 0.8				
M6 x 1.0						

Tap & Die Sets with Production Hand Taps, and HSS Round Adjustable Dies (metric sizes)

set number	no. of sizes	tap and die sizes	tap wrench	die stock	screw-driver	order number
49	5	M6 x 1.0	333	1790	300	420367
		M7 x 1.0				
		M8 x 1.25				
		M10 x 1.5				
		M12 x 1.75				

Tap & Die Sets with Production Hand Taps, Black Oxide Jobber Length Drills, and HSS Round Adjustable Dies (metric sizes)

set number	no. of sizes	tap and die sizes	drill sizes	tap wrench	die stock	screw-driver	order number
49D	5	M6 x 1.0	5.0	333	1790	300	420368
		M7 x 1.0	6.0				
		M8 x 1.25	6.7				
		M10 x 1.5	8.5				
		M12 x 1.75	10.2				



Order #420363

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index



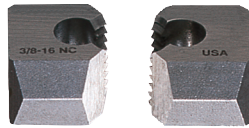
- Little Giant® Two-Piece Die System consists of these parts
Series 380 — Die
Series 1383 — Cap
Series 1384 — Guide
Series 1385 — Collet
- Inch sizes are sold as a complete assembly or in their component parts.
- Metric sizes are sold in their component parts only.

- Use with Style 1381 Little Giant® die stocks.
- Collet assembly for use with Little Giant® dies consists of a cap and a guide; order cap and guide separately, or assembled as a collet.
- Die halves are seated in the beveled cap slot and held in place by the guide, which screws into the underside of the cap.
- Die is adjusted by the set screws at either end of the slot.

- Caps of a given outside diameter are made with several different sizes of slots.
- Separate guide is required for each cutting size.
- To order separate guides, specify cutting size of the die and the size of the collet for 1/4" through 1/2" dies.
- For metric sizes where guide and collet assembly are not available, use Style 1382 Little Giant® Jr. die stock to hold dies.



Style 1386



Style 380



Style 1385
(combined Cap and Guide)



Style 1383



Style 1384

Inch Sizes

nominal size tpi and series	decimal equivalent	style 1386 complete assembly	style 380 die		style 1385 collet assembly		style 1383 cap		style 1384 guide Order No.
			blank	Order No.	#	Order No.	O.D.	Order No.	
4-40 UNC	.1120	423019	A1	423058	A1	423100	1.250	423121	423128
6-32 UNC	.1380	423020	A1	423059	A1	423101	1.250	423121	423129
8-32 UNC	.1640	423021	A1	423060	A1	423102	1.250	423121	423130
10-24 UNC	.1900	423022	A1	423061	A1	423103	1.250	423121	423131
10-32 UNF	.1900	423023	A1	423062	A1	423103	1.250	423121	423131
12-24 UNC	.2160	423024	A1	423063	A1	423104	1.250	423121	423132
1/4-20 UNC	.2500	423025	A1	423064	A1	423105	1.250	423121	423133
1/4-20 UNC	.2500	423026	A	423065	1	423106	2.000	423122	423134
1/4-20 UNC	.2500	423027	A	423065	5	423107	2.750	423123	423135
1/4-28 UNF	.2500	423028	A1	423067	A1	423105	1.250	423121	423133
1/4-28 UNF	.2500	423029	A	423068	1	423106	2.000	423122	423134
1/4-28 UNF	.2500	423030	A	423068	5	423107	2.750	423123	423135
5/16-18 UNC	.3125	423031	A	423069	1	423108	2.000	423122	423137
5/16-18 UNC	.3125	423032	A	423069	5	423109	2.750	423123	423136
5/16-24 UNF	.3125	423033	A	423070	1	423108	2.000	423122	423137
5/16-24 UNF	.3125	423034	A	423070	5	423109	2.750	423123	423136
3/8-16 UNC	.3750	423035	B	423071	1	423110	2.000	423124	423138
3/8-16 UNC	.3750	423036	B	423071	5	423111	2.750	423125	423139
3/8-24 UNF	.3750	423037	B	423072	1	423110	2.000	423124	423138
3/8-24 UNF	.3750	423038	B	423072	5	423111	2.750	423125	423139
7/16-14 UNC	.4375	423039	B	423073	1	423112	2.000	423124	423141
7/16-14 UNC	.4375	423040	B	423073	5	423113	2.750	423125	423140
7/16-20 UNF	.4375	423041	B	423074	1	423112	2.000	423124	423141
7/16-20 UNF	.4375	—	B	423074	5	423113	2.750	423125	423140
1/2-13 UNC	.5000	423043	B	423075	1	423114	2.000	423124	423142
1/2-13 UNC	.5000	423044	C	423076	5	423115	2.750	423126	423143
1/2-20 UNF	.5000	423045	B	423077	1	423114	2.000	423124	423142
1/2-20 UNF	.5000	423046	C	423078	5	423115	2.750	423126	423143
9/16-12 UNC	.5625	423047	C	423079	5	423116	2.750	423126	423144
9/16-18 UNF	.5625	423048	C	423080	5	423116	2.750	423126	423144
5/8-11 UNC	.6250	423049	C	423081	5	423117	2.750	423126	423145
5/8-18 UNF	.6250	423050	C	423082	5	423117	2.750	423126	423145
3/4-10 UNC	.7500	423051	C	423083	5	423118	2.750	423126	423146
3/4-16 UNF	.7500	423052	C	423084	5	423118	2.750	423126	423146
7/8-9 UNC	.8750	423053	D	423085	5	423119	2.750	423127	423147
7/8-14 UNF	.8750	423054	D	423086	5	423119	2.750	423127	423147
1-8 UNC	1.0000	423055	D	423087	5	423120	2.750	423127	423148
1-12 UNF	1.0000	423056	D	423088	5	423120	2.750	423127	423148
1-14 UNS	1.0000	423057	D	423089	5	423120	2.750	423127	423148



nominal size tpi and series	decimal equivalent	mm equivalent	style 380		style 1385		style 1383		style 1384
			die blank	Order No.	collet assembly #	Order No.	cap O.D.	Order No.	guide Order No.
M6 x 1	.2362	6.00	A	423090	5	*	2.750	*	423149
M8 x 1.25	.3150	8.00	A	423091	5	*	2.750	*	423150
M10 x 1.5	.3937	10.00	B	423092	5	*	2.750	*	423151
M12 x 1.75	.4724	12.00	B	423093	5	*	2.750	*	423152
M14 x 2	.5512	14.00	C	423094	5	423115	2.750	423126	423153
M16 x 2	.6300	16.00	C	423095	5	423116	2.750	423126	423154
M18 x 2.5	.7087	18.00	C	423096	5	423117	2.750	423126	423155
M20 x 2.5	.7874	20.00	C	423097	5	423118	2.750	423126	423156
M22 x 2.5	.8661	22.00	D	423098	5	423119	2.750	423127	423157
M24 x 3	.9449	24.00	D	423099	5	423120	2.750	423127	423158

*Use Style 382 Quick-Set Jr. die stock instead of collet assembly for these sizes.

Style: 1387

Little Giant®
Two-Piece Die System Set

Tap & Die Sets with Collet

- Carbon steel two-piece dies and collets
- Hand taps
- Tap wrench, die stock

set no.	no. of sizes	tap & die sizes	collet no.	tap wrench	die stock	order no.
59	7	4-40 NC 6-32 NC 8-32 NC	A1	T9, A1	A1	423159
510	5	1/4-20 NC 5/16-18 NC 3/8-16 NC	1	#5	#1	423160
511	10	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC	5	#5, #7	5A	423161
512	10	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC	1	#5	#1	423162
513	20	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC 9/16-12 NC 5/8-11 NC 3/4-10 NC 7/8-9 NC 1-8 NC	1,5	#5, #7	#1, #5B	423163
514	7	M6 x 1 M8 x 1.25 M10 x 1.5 M12 x 1.75	5	#6	#5	423164

Tap & Die Set without Collet

- Carbon steel Quick-Set two-piece dies and guides.
- HSS production hand taps
- Tap wrenches
- Die stock to hold dies without collet

set no.	# of sizes	tap & die sizes	tap wrench	die stock	order no.
58	20	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC 9/16-12 NC 5/8-11 NC 3/4-10 NC 7/8-9 NC 1-8 NC	1/4-28 NF 5/16-24 NF 3/8-24 NF 7/16-20 NF 1/2-20 NF 9/16-18 NF 5/8-18 NF 3/4-16 NF 7/8-14 NF 1-14NS	#5, #7 #1, #5	423165



Order #423159



Order #423160



Order #423161



Order #423162



Order #423163



Order #423164



Order #423165

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index

Die Systems



Little Giant® Accessories

Two-Piece Die with collet

Style: 1381



- Use with all Series 1386 Little Giant collets with two-piece dies.
- Little Giant die stocks have center holes corresponding to the outside diameter of the Little Giant collets.



stock number	collet number	collet capacity	length of stock	Order Number
#A1	A1	1-1/4	7-1/2	423166
#1	1	2	14-1/2	423167
#5	5	2-3/4	23	423168
#5A	5	2-3/4	26	423169

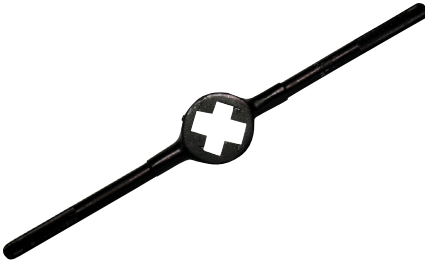
Little Giant Jr.® Accessories

Two-Piece Die without collet

Style: 1382



- Use with all Series 380 Little Giant two-piece dies without collet.
- Little Giant Jr. die stocks are designed to use Little Giant dies without collets.
- Double slots enable use of two different size blanks in the same stock.
- Dies fit directly into the stock and are held in place by a screw guide.



stock number	collet size	die blank size	guide number	cutting size range	length of stock	Order Number
#1	1/4 to 5/16 3/8 to 1/2	A B	1	1/4 to 1/2	14-1/2	423171
#5	9/16 to 3/4 7/8 to 1	C D	5	9/16 to 1	26	423172

Little Giant® Accessories

Spanner Wrench

Style: A1

- Because A1 guides are so small and round instead of square, a standard wrench cannot be used.
- Fits into two holes to turn guide.



stock number	collet number	collet capacity	Order Number
#A1	A1	1-1/4	423173



Style: 300

Dies - Tap Wrenches
Standard Straight

Note
Used for hand tapping



product number	machine screw	tap size range		overall length	Order Number
		fractional	metric		
0	0 to 14	1/16 to 1/4	M1.5 to M6.3	7	420910
14	0 to 14	1/16 to 3/8	M1.5 to M10	9	423015
5	8 to 14	5/32 to 1/2	M4 to M12.5	1/8	420936
6	8 to 14	5/32 to 3/4	M4 to M19	1/8 to 1/4	420944
7	—	1/4 to 1-1/8	M12 to M28	1/8 to 3/4	420951
8	—	3/4 to 1-5/8	M19 to M40	3/8 to 1-1/4	420977
22	—	1 to 2-1/2	M25 to M56	3/4 to 2	423016

Style: 330

Dies - Tap Wrenches
Plain T-Handle

Note
Used for hand tapping in out-in-the-open jobs



product number	machine screw	tap size range		overall length	Order Number
		fractional	metric		
T9	0 to 14	1/16 to 1/4	M1.5 to M6.3	2-3/4	420845
T10	12 to 14	7/32 to 1/2	M5.5 to M12.5	3-5/8	421852

Dies - Tap Wrenches
Slip T-Handle

Note
Used for hand tapping or in difficult spaces requiring a slip handle



product number	machine screw	tap size range		overall length	Order Number
		fractional	metric		
T11	0 to 14	1/16 to 1/4	M1.5 to M6.3	2-3/4	420803
T12	12 to 14	7/32 to 1/2	M5.5 to M12.5	3-5/8	420829

Dies - Tap Wrenches
Combination Ratchet and Slip T-Handle

Note
Used for hand tapping in difficult spaces needing ratchet drive



product number	machine screw	tap size range		overall length	Order Number
		fractional	metric		
T13	0 to 14	1/16 to 1/4	M1.5 to M6.3	3-3/4	420860
T14	12 to 14	7/32 to 1/2	M5.5 to M12.5	5	420878

Dies - Tap Wrenches
Long Shank T-Handle

Note
Used for hand tapping where extra reach is required



product number	machine screw	tap size range		overall length	Order Number
		fractional	metric		
T16	0 to 14	1/16 to 1/4	M1.5 to M6.3	8-3/4	423017
T17	12 to 14	7/32 to 1/2	M5.5 to M12.5	9	423018



Screw Extractors

Style: 335



Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index

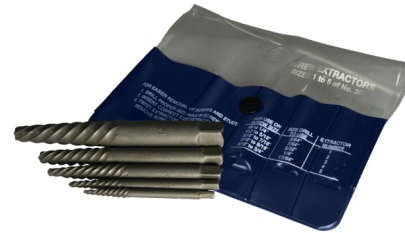
extractor number	small end	large end	OAL	screw & bolt size	pipe size	drill size	Order Number
# 1	1/16	1/8	2	3/16 - 1/4	-	5/64	421909
# 2	3/32	13/64	2-3/8	1/4 - 5/16	-	7/64	421917
# 3	1/8	1/4	2-11/16	5/16 - 7/16	-	5/32	421925
# 4	3/16	11/32	3	7/16 - 9/16	-	1/4	421933
# 5	1/4	7/16	3-3/8	9/16 - 3/4	1/8, 1/4	9/32	421941
# 6	3/8	19/32	3-3/4	3/4 - 1	3/8	13/32	421958
# 7	1/2	25/32	4-1/8	1 - 1-3/8	-	17/32	421966

Accessories

Screw Extractors Sets

Style: 335

extractor number		Order Number
# 15 Set	5 pieces sizes # 1 thru # 5	422006





Tapping Speeds

Consider these factors when trying to determine the best tapping speeds.

- Material to be tapped
- Length of chamfer on tap
- Percentage of full thread to be cut
- Length of hole (depth of thread)
- Pitch of thread
- Cutting fluids
- Machine equipment
- Horizontal or vertical tapping

The best and most efficient operating speeds for taps cannot be calculated with the same certainty as for many other metalcutting tools. With other tools, the feed per revolution can be set at any desired point and can be varied as conditions demand. Taps, on the other hand, must always be advanced at a rate equal to one pitch for every revolution. The style of tap may vary the conditions. For example, with a bottoming tap, the first thread on each land cuts the full height of thread, while, with a taper or starting tap, a number of threads do their share of the cutting before the full height of thread is reached.

The depth of thread also varies, depending on the pitch. The coarser the thread, the greater the advance of the tap per revolution and the greater the amount of material removed.

The method of feeding the tap, and the type of equipment for driving, also influence the permissible speeds. If taps are mechanically fed at the proper rate of advance, they can be operated at higher speeds than if they are required to feed themselves and pull some part of the machine along with them.

Speeds may be modified to take into account any or all of the factors listed above. Speeds must be lowered as the length of thread increases, because, in deep thread holes, the accumulated chips increase friction and interfere with lubrication.

Bottoming taps must be run slower than plug taps.

Tapping of full height of thread calls for slower speed than if the commercial 75% height only is required.

Coarse-thread taps in the larger diameters should be run more slowly than fine-thread taps of the same diameters.

The quantity and quality of cutting fluid may affect the permissible speeds as much as 100%.

Taper threaded taps, such as pipe taps, should be operated from 1/2 to 3/4 the speed of a straight thread tap of comparable major diameter.

Tapping Definitions

- SFM = Surface Feet per Minute
- RPM = Revolutions Per Minute
- IPM = Inches Per Minute
- TPI = Threads Per Inch
- S m/m = Surface Meters per Minute
- p = 3.1416
- mm/m = Millimeters per Minute
- P = Pitch (1/ No of Threads Per Inch)

Suggested Speeds for Uncoated and Coated Taps

Work Material	Speed-feet-per-minute	
	Uncoated Tap	Coated Tap
Alloy Steels:		
125-225 Bhn	30-60	60-120
225-325 Bhn	20-45	40-90
325-425 Bhn	10-35	20-70
Aluminum Alloys	75-150	150-300
Carbon Steels, 225 Bhn or less:		
low carbon (.10-.25C)	50-75	100-150
medium carbon (.30-.55C)	40-65	80-130
high carbon (.60-.95C)	30-55	90-110
Cast Iron		
ductile, annealed	40-60	80-120
ductile, as cast	20-45	40-90
gray (class 20, 25)	40-80	80-160
gray (class 30-50)	25-50	50-100
malleable, 200 Bhn or less	30-60	60-120
Copper Alloys	40-100	80-200
Graphites & Carbons	5-10	10-20
High-Temperature Alloys:		
cobalt base (Haynes alloys)	3-8	5-16
iron base (Incoloy, A-286	7-15	15-30
nickel base (Hastelloy, Inconel)	4-10	8-20
Magnesium	100-150	150-200
Plastics	25-50	50-100
Stainless Steels	15-35	30-70
Titanium:		
pure	25-55	50-110
alloys (Ti-6Al-4V)	10-25	20-50
Tool Steels:		
200-275 Bhn	15-30	30-60
300-350 Bhn	10-25	20-50
40-50 Rc	5-15	10-30
Zinc Alloys	100-150	150-250

**Success of coated taps in non-ferrous materials depends on the machining conditions used.*

Tapping Formula

Inch Sizes

$$\begin{aligned} \text{SFM} &= (\text{RPM} \times \text{tool diameter}) / 3.82 \\ &\text{or } 0.26 \times \text{RPM} \times \text{tool diameter} \\ \text{RPM} &= (3.82 \times \text{SFM}) / \text{tool diameter} \\ \text{IPM} &= \text{RPM} / \text{TPI}^* \\ &\text{or } *P \times \text{RPM} \end{aligned}$$

Metric Sizes

$$\begin{aligned} \text{S m/m} &= (p \times \text{tool diameter} \times \text{RPM}) / 1000 \\ \text{RPM} &= (\text{m/m} \times 1000) / p \times \text{tool diameter} \\ \text{mm/m} &= \text{mm } P \times \text{RPM} \end{aligned}$$





UNC/UNF and NPT/NPTF Sizes

UNC UNF Tap Size	NPT NPTF Taper Pipe	Surface Feet per Minute (SFM)																	
		5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
0		318	637	955	1273	1592	1910	2546	3183	3820	4456	5093	5729	6366	7003	7639	8276	8913	9549
1		273	546	819	1046	1308	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6805	7326	1849
2		212	424	637	888	1110	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662
3		191	382	573	772	964	1157	1543	1929	2315	2701	3086	3472	3858	4244	4629	5015	5401	5787
4		174	347	521	682	853	1023	1364	1705	2046	2387	2728	3069	3411	3751	4092	4434	4775	5115
5		147	294	441	611	764	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
6		136	273	409	553	691	829	1106	1382	1659	1935	2212	2488	2766	3042	3318	3595	3871	4148
8		119	239	358	466	583	699	932	1165	1398	1631	1864	2097	2330	2563	2796	3029	3262	3495
10		101	201	302	402	502	603	804	1005	1205	1406	1607	1808	2009	2210	2411	2612	2813	3014
12		87	174	260	354	442	531	707	884	1061	1238	1415	1592	1769	1945	2122	2300	2476	2653
1/4		76	153	229	306	382	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16		62	123	185	245	306	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8		50	101	151	204	255	305	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	1/8	43	87	130	175	219	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	—	38	76	115	153	191	229	305	382	458	535	611	688	764	840	917	993	1070	1146
9/16	1/4	34	68	102	137	172	206	274	342	410	478	547	616	683	752	820	888	952	1020
5/8	—	32	64	96	122	153	183	244	306	367	428	489	550	611	672	733	794	856	917
11/16	3/8	28	55	83	111	138	167	222	278	333	389	444	500	556	611	667	722	778	833
3/4	—	25	51	76	102	128	153	203	255	305	357	407	458	509	560	611	662	713	764
7/8	1/2	22	43	65	87	109	131	175	218	262	306	350	392	437	480	524	568	611	655
1	—	19	38	57	76	96	115	153	191	230	268	305	344	382	420	458	497	535	573
1 1/8	3/4	17	34	51	68	84	102	136	170	204	238	272	306	340	373	407	441	475	509
1 1/4	—	15	31	46	61	76	92	122	153	183	214	244	275	305	336	367	397	428	458
1 3/8	1	14	28	42	56	69	83	111	139	167	194	222	250	278	306	333	361	389	417
1 1/2	—	13	25	38	51	63	76	102	127	153	178	204	229	255	280	305	331	356	382
1 5/8	—	12	23	35	47	59	71	94	118	141	165	188	212	235	259	282	306	329	353
1 3/4	—	11	22	33	44	55	65	87	109	131	153	175	196	218	240	262	284	306	327
1 7/8	—	10	20	30	41	51	61	81	102	122	143	163	183	204	224	244	265	285	306
2	—	9	19	29	38	48	57	76	96	115	134	153	172	191	210	229	248	267	287

Metric Sizes

Tap Size	Surface Feet per Minute (SFM)																	
	5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
M1	490	979	1469	1959	2449	2938	3918	4897	5877	6856	7836	8815	9795	10774	11754	12733	13713	14692
M2	242	484	725	967	1209	1451	1934	2418	2901	3385	3868	4352	4835	5319	5803	6286	6770	7253
M3	162	324	486	647	809	971	1295	1619	1942	2266	2590	2914	3237	3561	3885	4208	4532	4856
M3.5	138	277	415	554	692	830	1107	1384	1661	1938	2214	2491	2768	3045	3322	3599	3875	4152
M4	122	243	365	487	608	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3163	3406	3650
M5	97	194	291	388	485	582	776	970	1163	1357	1551	1745	1939	2133	2327	2521	2715	2905
M6	81	162	243	324	405	486	647	809	971	1133	1295	1457	1619	1781	1942	2104	2266	2428
M7	69	138	208	277	346	415	554	692	830	969	1107	1246	1384	1522	1661	1799	1938	2076
M8	61	121	182	243	303	364	485	606	728	849	970	1091	1213	1334	1455	1577	1698	1819
M10	48	97	145	194	242	291	388	485	582	679	776	873	970	1067	1163	1260	1357	1454
M12	40	81	121	162	202	243	324	405	486	567	647	728	809	890	971	1052	1133	1214
M14	35	69	104	139	173	208	277	347	416	485	555	624	693	763	832	901	971	1040
M16	30	61	91	121	152	182	243	303	364	424	485	546	606	667	728	788	849	910
M18	27	54	81	108	135	162	216	269	323	377	431	485	539	593	647	700	754	808
M20	24	49	73	97	121	146	194	243	291	340	388	437	485	534	582	631	680	728
M22	22	44	66	88	110	132	176	221	265	309	353	397	441	485	529	573	618	662
M24	20	40	61	81	101	121	162	202	243	283	323	364	404	445	485	526	566	606
M27	18	36	54	72	90	108	144	180	216	252	287	323	359	395	431	467	503	539
M30	16	32	49	65	81	97	129	162	194	226	259	291	323	356	388	420	453	485



Use this table to match the hardness of your workpiece material to the correct tap.

10 M/M Ball 3000 Kg	120° Cone 150 Kg	1/16" Ball 100 Kg	Model C	1000 Lb. per Sq. In.	10 M/M Ball 3000 Kg	120° Cone 150 Kg	1/16" Ball 100 Kg	Model C	1000 Lb. per Sq. In.
Brinell	Rockwell C	Rockwell B	Shore Scleroscope	Tensile Strength	Brinell	Rockwell C	Rockwell B	Shore Scleroscope	Tensile Strength
800	72	—	100	—	276	30	105	42	136
780	71	—	99	—	269	29	104	41	132
760	70	—	98	—	261	28	103	40	129
745	68	—	97	367	258	27	102	39	127
725	67	—	96	357	255	26	102	39	125
712	66	—	95	350	249	25	101	38	123
682	65	—	93	337	245	24	100	37	119
668	64	—	91	326	240	23	99	36	117
652	63	—	89	318	237	23	99	35	115
626	62	—	87	306	229	22	98	34	113
614	61	—	85	299	224	21	97	33	110
601	60	—	83	292	217	20	96	33	107
590	59	—	81	290	211	19	95	32	104
576	57	—	79	281	206	18	94	32	102
552	56	—	76	270	203	17	94	31	100
545	55	—	75	268	200	16	93	31	98
529	54	—	74	259	196	15	92	30	96
514	53	120	72	254	191	14	92	30	94
502	52	119	70	247	187	13	91	29	92
495	51	119	69	244	185	12	91	29	91
477	49	118	67	233	183	11	90	28	90
461	48	117	66	227	180	10	89	28	89
451	47	117	65	223	175	9	88	27	86
444	46	116	64	219	170	7	87	27	84
427	45	115	62	209	167	6	87	27	82
415	44	115	60	204	165	5	86	26	81
401	43	114	58	196	163	4	85	26	80
388	42	114	57	191	160	3	84	25	78
375	41	113	55	184	156	2	83	25	76
370	40	112	54	182	154	1	82	25	75
362	39	111	53	179	152	—	82	24	74
351	38	111	51	173	150	—	81	24	74
346	37	110	50	170	147	—	80	24	72
341	37	110	49	168	145	—	79	23	71
331	36	109	47	163	143	—	79	23	70
323	35	109	46	158	141	—	78	23	69
311	34	108	46	153	140	—	77	22	69
301	33	107	45	148	135	—	75	22	67
293	32	106	44	144	130	—	72	22	65
285	31	105	43	140					

Machine
Taps

Spiral Point
Taps

Spiral Flute
Taps

Thread Forming
Taps

Pipe Taps

Dies

Technical Info

Sets

Index



Tap Nomenclature

Bottoming Tap

A tap having a chamfer length of 1-2 threads.

Chamfer

The tapering of the threads at the front end of each land of a chaser, tap or die by cutting away and relieving the crest of the first few teeth to distribute the cutting action over several teeth.

Chamfer Angle

The angle formed between the chamfer and the axis of the tap or die by cutting away and relieving the crest of the first few teeth to distribute the cutting action over several teeth.

Crest

The surface of the thread which joins the flanks of the thread and is farthest from the cylinder or cone from which the thread projects.

Flank

The part of a helical thread surface which connects the crest and the root and which is theoretically a straight line in an axial plane section.

Flute

The longitudinal channel formed in a tap to create cutting edges on the thread profile and to provide chip spaces and cutting fluid passage.

Hand of Threads

A thread, when viewed axially, winds in a clockwise and receding direction for LEFT-HAND THREADS and counter-clockwise and receding direction for RIGHT-HAND THREADS.

Hook, Chordal

A concave face having an angle of inclination specified between a chord passing through the root and crest of a thread form at the cutting face, and a radial line through the crest at the cutting edge.

Hook, Tangential

A concave face having an angle of inclination specified between a line tangent to the hook surface at the cutting edge and a radial line to the same point.

Hook Angle

The angle of inclination of a concave face, usually specified either as CHORDAL HOOK or TANGENTIAL HOOK.

Interrupted Thread Tap

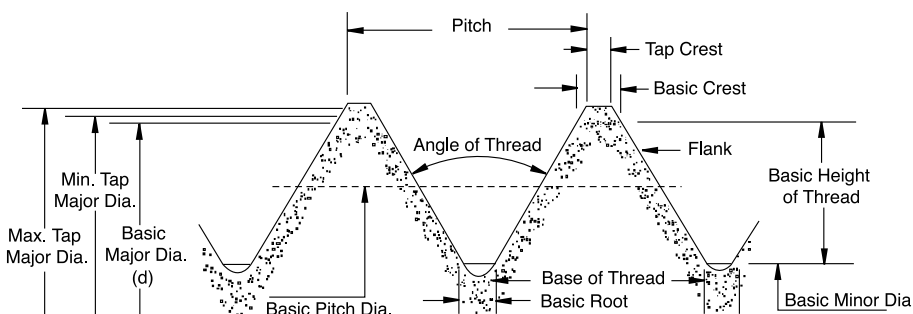
A tap having an odd number of lands with alternate teeth in the thread helix removed. In some cases alternate teeth are removed only for a portion of the thread length.

Land

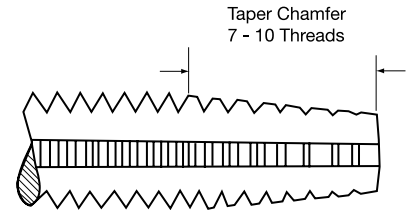
One of the threaded sections between the flutes of a tap.

continued on next page

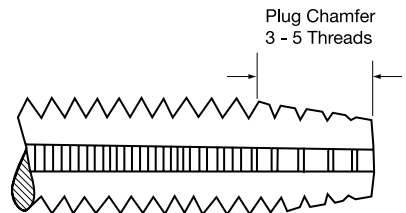
Illustration of Tap Terms



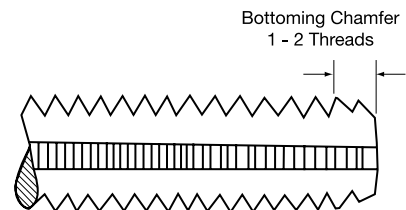
Tap Chamfers



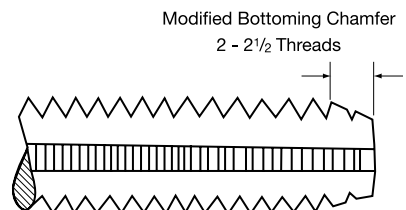
Taper (7 to 10 pitches) – The taper chamfer has the longest standard chamfer ensuring easier starting. It requires less tapping torque because of more working teeth.



Plug (3 to 5 pitches) – The most common chamfer for use by hand or machine in through or blind holes. This chamfer is more efficient than a bottoming or modified-bottoming chamfer.



Bottoming (1 to 2 pitches) – For threading close to the bottom of blind holes, the bottoming chamfer is the least efficient chamfer available.



Modified-Bottoming (2 to 2 1/2 pitches) – This short chamfer allows for threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a bottoming chamfer.

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Lead of Thread

The distance a screw thread advances axially in one complete turn. On a single start tap the lead and pitch are identical. On a multiple start tap the lead is the multiple of the pitch.

Major Diameter

The diameter of the major cylinder or cone, at a given position on the axis, that bounds the crests of an external thread or the roots of an internal thread.

Minor Diameter

The diameter of the minor cylinder or cone, at a given position on the axis, that bounds the roots of an external thread or the crests of an internal thread.

Pitch Diameter

The diameter of an imaginary cylinder or cone, at a given point on the axis, of such a diameter and location of its axis that its surface would pass through the thread in such a manner as to make the thread ridge and the thread groove equal and, therefore, is located equidistant between the sharp major and minor cylinders or cones of a given thread form. On a theoretically perfect thread, these widths are equal to one half of the basic pitch (measured parallel to the axis). See illustration below

Plug Tap

A tap with 3 to 5 chamfered threads.

Spiral Point

The angular fluting in the cutting face of the land at the chamfered end. It is formed at an angle with respect to the tap axis of opposite hand to that of rotation. Its length is usually greater than the chamfer length and its angle with respect to the tap axis is usually made great enough to direct the chips ahead of the tap. The tap may or may not have longitudinal flutes.

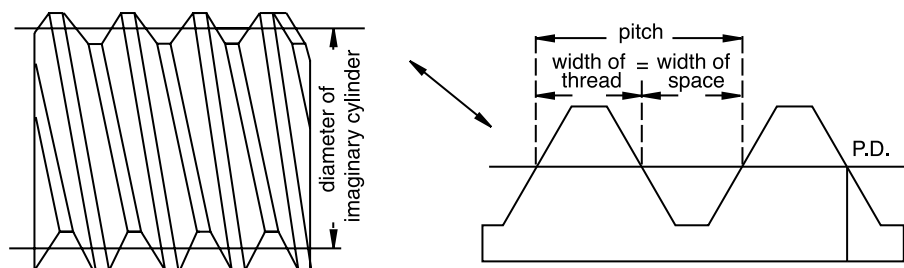
Square

Four driving flats parallel to the axis on a tap shank forming a square or square with round corners.

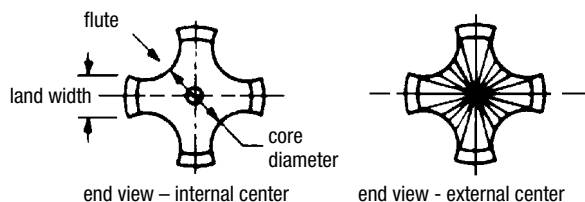
Taper Tap

A tap having a chamfer length of 7 to 10 threads.

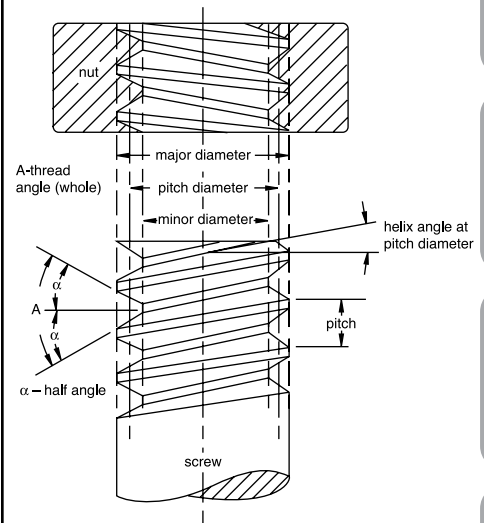
Pitch Diameter



Tap End Views



Screw Thread Tolerances



It is generally recognized that, in mass production, it is impossible to reproduce in exact detail the theoretically perfect product as laid out on the drawing board. The allowed slight variation between the theoretically perfect product and each unit of the actual product is called the TOLERANCE.

Allowance

An intentional difference in correlated dimensions of mating parts. It is the minimum clearance or maximum interference between such parts.

Angle of Thread

The angle included between the flanks of the thread measured in an axial plane.

Half Angle of Thread

The angle included between a flank of the thread and the normal (90°) to the axis, measured in an axial plane.

Lead of Thread

The distance a screw thread advances axially in one turn. On a single-thread screw the lead and pitch are identical. On a double thread the lead is 2X pitch, on a triple thread the lead is 3X pitch, etc.

Major Diameter

The largest diameter of a straight screw thread.

Minor Diameter

The smallest diameter of a straight screw thread.

Pitch

The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the axis.

$$\text{The pitch in inches} = \frac{1}{\text{no. of threads per inch}}$$

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index



Definitions

Standard Tap Marking System

Taps, dies, and other threading tools will be marked with the nominal size, number of threads per inch, and the proper symbol to identify the thread form. The symbols below are

in agreement with the ASME B1.7 1965 (R 1972) Standard on nomenclature, definitions and letter symbols for screw threads and other national standards.

Symbol	Reference
ACME-C	Acme Thread-Centralizing
ACME-G	Acme Thread-General Purpose
AMO	American Standard Microscope Objective Thread
ANPT	Aeronautical National Form Taper Pipe Thread (Ground Thread Tap marked NPT)
BA	British Association Standard Thread
BSF	British Standard Fine Thread Series
BSPP	British Standard Pipe (Parallel) Thread
BSPT	British Standard Taper Pipe Thread
BSW	British Standard Whitworth Coarse Thread Series
M	Metric Standard Threads
N	American National 8, 12 and 16 Thread Series (8N, 12N, 16N)
N BUTT	American Buttress Thread
NC	American National Coarse Thread Series
NEF	American National Extra-Fine Thread Series
NF	American National Fine Thread Series
NGO	National Gas Outlet Thread (specify right or left hand)
NGS	National Gas Straight Thread
NGT	National Gas Taper Thread (See also "SGT")
NH	American National Hose Coupling & Firehose Coupling Threads
NPS	For Tap marking Only (See NPSC, NPSM)
NPSC	American National Standard Straight Pipe Thread in Pipe Couplings (Tap Marked NPS)
NPSF	Dryseal American National Standard Fuel Internal Straight Pipe Thread
NPSH	American National Standard Straight Pipe Thread for Hose Couplings
NPSI	Dryseal American National Standard Intermediate Internal Straight Pipe Thread
NPSL	American National Standard Straight Pipe Thread for Loose-Fitting Mechanical Joints with locknuts.
NPSM	American National Standard Straight Pipe Threads for Free-Fitting Mechanical Joints for Fixtures (Tap Marked NPS)
NPT	American National Standard Taper Pipe Thread (see ANPT, NPTR)

Symbol	Reference
NPTF	Dryseal American National Standard Taper Pipe Thread
NPTR	American National Standard Taper Pipe Thread for Railing Joints (Tap Marked NPT)
NR	American National Thread with a 0.108p to 0.144p Controlled Root Radius
NS	American National Thread-Special
PTF-SAE	Short Dryseal SAE Short Taper Pipe Thread
SGT	Special Gas Taper Thread
SPL-PTF	Dryseal Special Taper Pipe Thread
STI	Special Thread for Helical Coil Wire Screw Thread Inserts
Stub Acme	Stub Acme Thread
*UN	Unified Constant-Pitch Thread Series
*UNC	Unified Coarse Thread Series
*UNEF	Unified Extra-Fine Thread Series
*UNF	Unified Fine Thread Series
UNJ	Unified Thread Series with a 0.150lp to 0.18042p Controlled Root Radius on External Thread only.
UNJC	Unified Coarse Thread Series with a 0.150lp to 0.18042p Controlled Root Radius on External Thread only.
UNJF	Unified Fine Thread Series with a 0.150lp to 0.18042p Controlled Root Radius on External Thread only.
UNM	Unified Miniature Thread Series
UNR	Unified Constant-pitch Thread Series with a 0.108p to 0.144p Controlled Root Radius
UNRC	Unified Coarse Thread Series with a 0.108p to 0.144p Controlled Root Radius
UNRF	Unified Fine Thread Series with a 0.108p to 0.144p Controlled Root Radius
*UNS	Unified Thread-Special
V	A 60 "V" thread with Truncated Crest and Root. The theoretical "V" Form is usually flattened to the user's specifications.

*Taps are not marked with "U", but with the symbol for the corresponding American Standard thread form with which it is compatible.

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

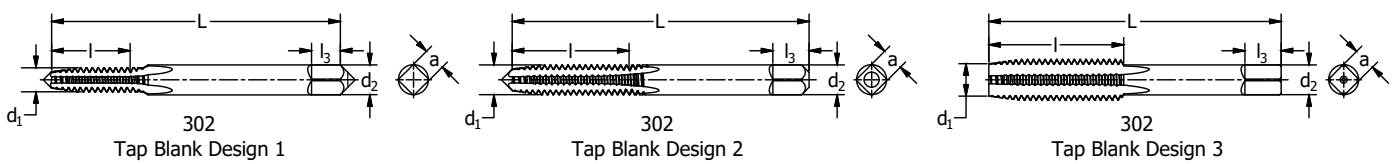
Technical Info

Sets

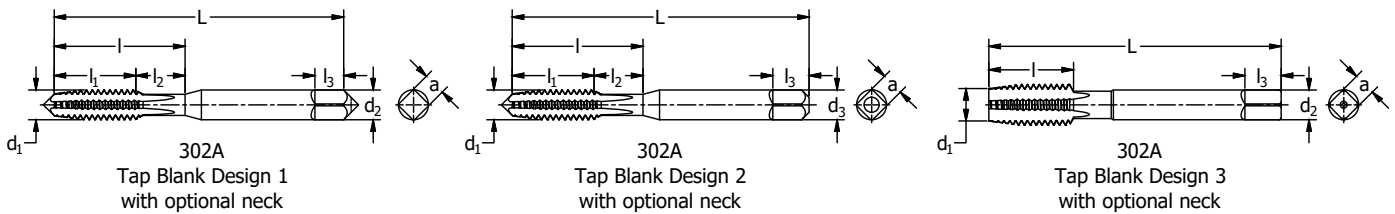
Index



USCTI Table 302



USCTI Table 302A



Fractional Sizes

nominal inch diameter d_1		nominal diameter range over to (inclusive)		tap blank design (see above)	overall length L	thread length l	optional short thd l_1	optional neck length l_2	square length l_3	shank diameter d_2	square size a
fractional	decimal	over	to (inclusive)	(see above)	L	l	l_1	l_2	l_3	d_2	a
1/4	.2500	.223	.260	2	2.500	1.000	.630	.380	.310	.255	.191
5/16	.3125	.260	.323	2	2.719	1.125	.690	.440	.380	.318	.238
3/8	.3750	.323	.395	2	2.938	1.250	.750	.500	.440	.381	.286
7/16	.4375	.395	.448	3	3.156	1.438	.880	—	.410	.323	.242
1/2	.5000	.448	.510	3	3.375	1.656	.940	—	.440	.367	.275
9/16	.5625	.510	.573	3	3.594	1.656	.940	—	.500	.429	.322
5/8	.6250	.573	.635	3	3.813	1.813	.090	—	.560	.480	.360
11/16	.6875	.635	.709	3	4.031	1.813	1.090	—	.630	.542	.406
3/4	.7500	.709	.760	3	4.250	2.000	1.220	—	.690	.590	.442
13/16	.8125	.760	.823	3	4.470	2.000	1.220	—	.690	.652	.489
7/8	.8750	.823	.885	3	4.688	2.219	1.340	—	.750	.697	.523
15/16	.9375	.885	.948	3	4.910	2.220	1.340	—	.750	.760	.570
1	1.0000	.948	1.010	3	5.125	2.500	1.500	—	.810	.800	.600
1-1/16	1.0625	1.010	1.073	3	5.130	2.500	—	—	.880	.896	.672
1-1/8	1.1250	1.073	1.135	3	5.438	2.563	—	—	.880	.896	.672
1-3/16	1.1875	1.135	1.198	3	5.440	2.560	—	—	1.000	1.021	.766
1-1/4	1.2500	1.198	1.260	3	5.750	2.563	—	—	1.000	1.021	.766
1-5/16	1.3125	1.260	1.323	3	5.750	2.560	—	—	1.060	1.108	.831
1-3/8	1.3750	1.323	1.385	3	6.063	3.000	—	—	1.060	1.108	.831
1-7/16	1.4375	1.358	1.448	3	6.060	3.000	—	—	1.130	1.233	.925
1-1/2	1.5000	1.448	1.510	3	6.375	3.000	—	—	1.130	1.233	.925
1-5/8	1.6250	1.510	1.635	3	6.690	3.190	—	—	1.130	1.305	.979
1-3/4	1.7500	1.635	1.760	3	7.000	3.190	—	—	1.250	1.430	1.072
1-7/8	1.8750	1.760	1.885	3	7.310	3.560	—	—	1.250	1.519	1.139
2	2.0000	1.885	2.010	3	7.630	3.560	—	—	1.380	1.644	1.233

Machine Screw Sizes

nominal inch diameter d_1		nominal diameter range over to (inclusive)		tap blank design (see above)	overall length L	thread length l	optional short thd l_1	optional neck length l_2	square length l_3	shank diameter d_2	square size a
MS#	decimal	over	to (inclusive)	(see above)	L	l	l_1	l_2	l_3	d_2	a
0	.0600	.052	.065	1	1.625	.313	—	—	.190	.141	.110
1	.0730	.065	.078	1	1.688	.375	—	—	.190	.141	.110
2	.0860	.078	.091	1	1.750	.438	—	—	.190	.141	.110
3	.0990	.091	.104	1	1.813	.500	—	—	.190	.141	.110
4	.1120	.104	.117	1	1.875	.563	.310	.250	.190	.141	.110
5	.1250	.117	.130	1	1.938	.625	.310	.310	.190	.141	.110
6	.1380	.130	.145	1	2.000	.688	.380	.310	.190	.141	.110
8	.1640	.145	.171	1	2.125	.750	.380	.380	.250	.168	.131
10	.1900	.171	.197	1	2.375	.875	.500	.380	.250	.194	.152
12	.2160	.197	.223	1	2.375	.938	.500	.440	.280	.220	.165

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index

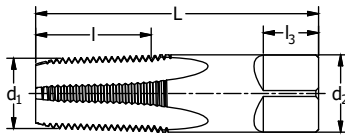
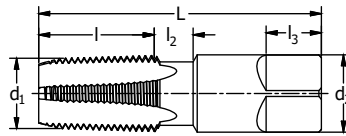
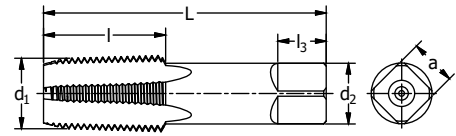


Metric Sizes

	nominal diameter range		tap blank design (see above)	overall length L	thread length l	optional length		square length l ₃	shank diameter d ₂	square size a	
	mm	decimal				over	to (inclusive)				short thd l ₁
M1.6	.063	.052	.065	1	1.625	.313	—	.190	.141	.110	
M1.8	.071	.065	.078	1	1.688	.375	—	.190	.141	.110	
M2	.079	.078	.091	1	1.750	.438	—	.190	.141	.110	
M2.2	.087	.078	.091	1	1.750	.438	—	.190	.141	.110	
M2.5	.098	.091	.104	1	1.813	.500	—	.190	.141	.110	
M3	.118	.117	.130	1	1.938	.625	.310	.310	.190	.141	.110
M3.5	.138	.130	.145	1	2.000	.688	.380	.310	.190	.141	.110
M4	.158	.145	.171	1	2.125	.750	.380	.380	.250	.168	.131
M4.5	.177	.171	.197	1	2.375	.875	.500	.380	.250	.194	.152
M5	.197	.171	.197	1	2.375	.875	.500	.440	.250	.194	.152
M6	.236	.223	.260	2	2.500	1.000	.630	.380	.310	.255	.191
M7	.276	.260	.323	2	2.719	1.125	.690	.440	.380	.318	.238
M8	.315	.260	.323	2	2.719	1.125	.690	.440	.380	.318	.238
M10	.394	.323	.395	2	2.938	1.250	.750	.500	.440	.381	.286
M12	.472	.448	.510	3	3.375	1.656	.940	—	.440	.367	.275
M14	.551	.510	.573	3	3.594	1.656	1.000	—	.500	.429	.322
M16	.630	.573	.635	3	3.813	1.813	1.090	—	.560	.480	.360
M18	.709	.635	.709	3	4.031	1.813	1.090	—	.630	.542	.406
M20	.787	.760	.823	3	4.469	2.000	1.220	—	.690	.652	.489
M22	.866	.823	.885	3	4.690	2.220	1.340	—	.750	.697	.523
M24	.945	.885	.948	3	4.906	2.219	1.340	—	.750	.760	.570
M25	.984	.948	1.010	3	5.130	2.500	1.500	—	.810	.800	.600
M27	1.063	1.010	1.073	3	5.130	2.500	—	—	.880	.896	.672
M30	1.181	1.135	1.198	3	5.438	2.563	—	—	1.000	1.021	.766

Standard Tap Dimension Tolerances

nominal diameter range (in.)		overall length L	thread length l	tolerances (in.)		
over	to (inc.)			square length l ₃	shank diameter d ₂	square size a
.0520	.2230	+/- .031	+/- .047	+/- .031	-.0015	-.004
.2230	.5100	+/- .031	+/- .063	+/- .031	-.0015	-.004
.5100	.6350	+/- .031	+/- .094	+/- .031	-.0015	-.006
.6350	1.0100	+/- .031	+/- .094	+/- .031	-.0020	-.006
1.0100	1.5100	+/- .063	+/- .094	+/- .063	-.0020	-.008
1.5100	2.0100	+/- .063	+/- .125	+/- .063	-.0030	-.008
2.0100	4.0100	+/- .063	+/- .125	+/- .063	-.0030	-.010

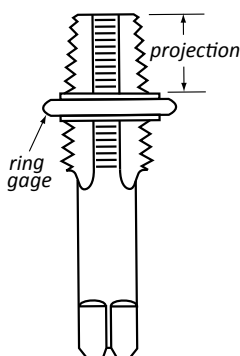

 311
 Pipe Tap Blank Design 1

 311
 Pipe Tap Blank Design 2
 with optional neck

 311
 Pipe Tap Blank Design 3

Inch Pipe Tap Sizes

nominal inch diameter d1		tap blank design (see above)	overall length L	thread length l1	optional neck length l2	square length l3	shank diameter d2	square size a
fractional	decimal							
1/16	.0625	1 or 2	2.130	.690	.375	.380	.3125	.234
1/8	.1250	1	2.130	.750	—	.380	.3125	.234
1/8	.1250	1 or 2	2.130	.750	.375	.380	.4375	.328
1/4	.2500	1 or 2	2.440	1.060	.375	.440	.5625	.421
3/8	.3750	1 or 2	2.560	1.060	.375	.500	.7000	.531
1/2	.5000	1	3.130	1.380	—	.630	.6875	.515
3/4	.7500	1	3.250	1.380	—	.690	.9063	.679
1	1.0000	1	3.750	1.750	—	.810	1.1250	.843
1-1/4	1.2500	1	4.000	1.750	—	.940	1.3125	.984
1-1/2	1.5000	1	4.250	1.750	—	1.000	1.5000	1.125
2	2.0000	3	4.500	1.750	—	1.130	1.8750	1.406

Standard Pipe Tap Dimension Tolerances

nominal inch diameter d1		overall length L	thread length l1	square length l3	shank diameter d2	square size a
fractional	decimal					
1/16	.0625	+/- .031	+/- .063	+/- .031	-.0015	-.004
1/8	.1250	+/- .031	+/- .063	+/- .031	-.0015	-.004
1/8	.1250	+/- .031	+/- .063	+/- .031	-.0015	-.004
1/4	.2500	+/- .031	+/- .063	+/- .031	-.0020	-.006
3/8	.3750	+/- .031	+/- .063	+/- .031	-.0020	-.006
1/2	.5000	+/- .031	+/- .063	+/- .031	-.0020	-.006
3/4	.7500	+/- .031	+/- .063	+/- .031	-.0020	-.006
1	1.0000	+/- .063	+/- .094	+/- .063	-.0020	-.008
1-1/4	1.2500	+/- .063	+/- .094	+/- .063	-.0030	-.008
1-1/2	1.5000	+/- .063	+/- .125	+/- .063	-.0030	-.008
2	2.0000	+/- .063	+/- .125	+/- .063	-.0030	-.008

Thread Limits – Taper Pipe Taps – Ground Thread


nominal tap size (inch)	threads per inch	projection (inch)	projection tolerance +/- inch	taper per foot (inch)		ring gage thickness	tap drill size NPT, ANPT, NPTF
				min.	max.		
1/16	27	.312	.063	.719	.781	.160	C
1/8	27	.312	.063	.719	.781	.1615	Q
1/4	18	.459	.063	.719	.781	.2278	7/16
3/8	18	.454	.063	.719	.781	.240	9/16
1/2	14	.579	.063	.719	.781	.320	45/64
3/4	14	.565	.063	.719	.781	.339	29/32
1	11-1/2	.678	.094	.719	.781	.400	1 9/64
1-1/4	11-1/2	.686	.094	.719	.781	.420	1 31/64
1-1/2	11-1/2	.699	.094	.719	.781	.420	1 23/32
2	11-1/2	.667	.094	.719	.781	.436	2 3/16

 Machine Taps
 Spiral Point Taps
 Spiral Flute Taps
 Thread Forming Taps
 Pipe Taps
 Dies
 Technical Info
 Sets
 Index



Thread Limits

Unified and American National Form

Fractional Taps – Ground Thread

Lead Tolerance

A maximum lead error of + / - .0005" in 1" of thread is permitted.

Angle Tolerance

Threads Per Inch	Error in Half Angle
6 to 9 inclusive	25' + / -
10 to 28 inclusive	30' + / -

Pitch Diameter Limits

for taps through 1" diameter:

- H1 = basic to basic plus .0005"
- H2 = basic plus .0005" to basic plus .001"
- H3 = basic plus .001" to basic plus .0015"
- H4 = basic plus .0015" to basic plus .002"
- H5 = basic plus .002" to basic plus .0025"
- H6 = basic plus .0025" to basic plus .003"

for Taps over 1" Diameter Through 1-1/2" diameter:

- H4 = basic plus .001" to basic plus .002"

Formulae (Approximate)

Max. Major Diameter = Basic Major Diameter + A*
 Min. Major Diameter = Max. Major Diameter - B*
**See USCTI Table 331.*

Thread Limits

threads per inch				major diameter			basic pitch dia	pitch diameter limits											
nom size	NC UNC	NF UNF	NS UNS	basic	min	max		H1 limit		H2 limit		H3 limit		H4 limit		H5 limit		H6 limit	
								min	max	min	max	min	max	min	max	min	max	min	max
1/4	20	-	-	.2500	.2540	.2550	.2175	.2175	.2180	.2180	.2185	.2185	.2190	-	-	.2195	.2200	-	-
1/4	-	28	-	.2500	.2525	.2535	.2268	.2268	.2273	.2273	.2278	.2278	.2283	.2283	.2288	-	-	-	-
5/16	18	-	-	.3125	.3170	.3180	.2764	.2764	.2769	.2769	.2774	.2774	.2779	-	-	.2784	.2789	-	-
5/16	-	24	-	.3125	.3155	.3165	.2854	.2854	.2859	.2859	.2864	.2864	.2869	.2869	.2874	-	-	-	-
3/8	16	-	-	.3750	.3800	.3810	.3344	.3344	.3349	.3349	.3354	.3354	.3359	-	-	.3364	.3369	-	-
3/8	-	24	-	.3750	.3780	.3790	.3479	.3479	.3484	.3484	.3489	.3489	.3494	.3494	.3499	-	-	-	-
7/16	14	-	-	.4375	.4435	.4445	.3911	-	-	.3916	.3921	.3921	.3926	-	-	.3931	.3936	-	-
7/16	-	20	-	.4375	.4415	.4425	.4050	-	-	-	.4060	.4065	.4065	-	-	.4070	.4075	-	-
1/2	13	-	-	.5000	.5065	.5075	.4500	.4500	.4505	.4505	.4510	.4510	.4515	-	-	.4520	.4525	-	-
1/2	-	20	-	.5000	.5040	.5050	.4675	.4675	.4680	.4680	.4685	.4685	.4690	-	-	.4695	.4700	-	-
9/16	12	-	-	.5625	.5690	.5700	.5084	-	-	.5089	-	-	.5099	-	-	.5104	.5109	-	-
9/16	-	18	-	.5625	.5670	.5680	.5264	-	-	.5269	.5274	.5274	.5279	-	-	.5284	.5289	-	-
5/8	11	-	-	.6250	.6320	.6330	.5660	-	-	.5665	.5670	.5670	.5675	-	-	.5680	.5685	-	-
5/8	-	18	-	.6250	.6295	.6305	.5889	-	-	.5894	.5899	.5899	.5904	-	-	.5909	.5914	-	-
11/16	-	-	11	.6875	.6945	.6955	.6285	-	-	-	-	.6295	.6300	-	-	-	-	-	-
11/16	-	-	16	.6875	.6925	.6935	.6469	-	-	-	-	.6479	.6484	-	-	-	-	-	-
3/4	10	-	-	.7500	.7575	.7590	.7094	-	.6855	.6855	.6860	.6860	.6865	-	-	.6870	.6875	-	-
3/4	-	16	-	.7500	.7550	.7560	.7094	.7094	.7099	.7099	.7104	.7104	.7109	-	-	.7114	.7119	-	-
7/8	9	-	-	.8750	.8835	.8850	.8028	-	-	-	-	-	-	.8043	.8048	-	-	.8053	.8058
7/8	-	14	-	.8750	.8810	.8820	.8286	-	-	.8291	.8296	-	-	.8301	.8306	-	-	.8311	.8316
1	8	-	-	1.0000	1.0095	1.0110	.9188	-	-	.9193	.9198	-	-	.9203	.9208	-	-	.9213	.9218
1	-	12	-	1.0000	1.0065	1.0075	.9459	-	-	-	-	-	-	.9474	.9479	-	-	-	-
1	-	-	14	1.0000	1.0060	1.0070	.9536	-	-	-	-	-	-	.9551	.9556	-	-	-	-
1 1/8	7	-	-	1.1250	1.1350	1.1370	1.0322	-	-	-	-	-	-	1.0332	1.0342	-	-	-	-
1-1/8	-	12	-	1.1250	1.1320	1.1325	1.0709	-	-	-	-	-	-	1.0719	1.0729	-	-	-	-
1-1/4	7	-	-	1.2500	1.2600	1.2620	1.1572	-	-	-	-	-	-	1.1582	1.1592	-	-	-	-
1-1/4	-	12	-	1.2500	1.2565	1.2575	1.1959	-	-	-	-	-	-	1.1969	1.1979	-	-	-	-
1-3/8	6	-	-	1.3750	1.3870	1.3890	1.2667	-	-	-	-	-	-	1.2677	1.2687	-	-	-	-
1-3/8	-	12	-	1.3750	1.3815	1.3825	1.3209	-	-	-	-	-	-	1.3219	1.3229	-	-	-	-
1-1/2	6	-	-	1.5000	1.5120	1.5140	1.3917	-	-	-	-	-	-	1.3927	1.3937	-	-	-	-
1 1/2	-	12	-	1.5000	1.5070	1.5075	1.4459	-	-	-	-	-	-	1.4469	1.4479	-	-	-	-



Machine Screw Taps – Ground Thread

Lead Tolerance

A maximum lead error of +/- .0005" in 1" of thread is permitted.

Angle Tolerance

Threads Per Inch 20 to 80 inclusive Error in Half Angle 30' +/-

Pitch Diameter Limits

- H1 = basic to basic + .0005" to basic + .001"
H2 = basic + .0005" to basic + .001"
H3 = basic + .001" to basic + .0015"
H7 = basic + .003" to basic + .0035"

Formulae

Max. Major Diameter= Basic Major Diameter + A
Min. Major Diameter= Max. Major Diameter - B
A = Constant to add: 45% of the theoretical truncation to nearest .0005"
B = Major diameter tolerance.

Thread Limits

Table with columns for nominal size, threads per inch (NC, NF, NS, UNC, UNF, UNS), major diameter (basic, min, max), basic pitch dia, and pitch diameter limits (H1, H2, H3, H7) with min and max values.





Thread Limits

Metric Taps

Ground Thread

General

These tables and formulae are used in determining the limits and tolerances for ground thread metric taps unless otherwise specified. They apply only to metric threads having a 60° form with a P/8 flat at the major diameter of the basic thread form.

Note: When the tap major diameter must be determined from a specific tap pitch diameter, the minimum major diameter equals the maximum specified tap pitch diameter minus constant Y, plus the basic size height of thread (.64952P), plus constant W.

Lead Tolerance

A maximum lead error of + / - .0005" in 1" of thread is permitted.

Angle Tolerance

Pitch mm	Deviation in Half Angle
over 0.25 to 2.5 inclusive	30' + / -
over 2.5 to 4 inclusive	25' + / -
over 4 to 6 inclusive	20' + / -

Formulae

- Max. Major Diameter = Min. + X
- Min. Major Diameter = Basic + W
- Max. Pitch Diameter = Basic + Y
- Min. Pitch Diameter = Max. - Z
- W = Constant to add to Basic Major Diameter (.080P converted to inches)
- X = Major Diameter Tolerance
- Y = Amount over Basic for Maximum Pitch Diameter
- Z = Pitch Diameter Tolerance

Values for W, X, Y and Z (inches)

pitch mm	inch equivalent	W	X	Y	Y	Y	Y	Z	Z	Z	Z
		inch	inch	M1.6 thru M6.3	over M6.3 thru M25	over M25 thru M90	over M90	M1.6 thru M6.3	over M6.3 thru M25	over M25 thru M90	over M90
0.3	.01181	.0009	.0010	.0015	.0015	.0020	.0020	.0006	.0006	.0008	.0008
0.35	.01378	.0011	.0010	.0015	.0015	.0020	.0020	.0006	.0006	.0008	.0008
0.4	.01575	.0013	.0010	.0015	.0020	.0020	.0020	.0006	.0006	.0008	.0010
0.45	.01772	.0014	.0010	.0015	.0020	.0020	.0020	.0006	.0008	.0008	.0010
0.5	.01968	.0016	.0010	.0015	.0020	.0020	.0025	.0006	.0008	.0010	.0010
0.6	.02362	.0019	.0010	.0020	.0020	.0025	.0025	.0008	.0008	.0010	.0010
0.7	.02756	.0022	.0016	.0020	.0020	.0025	.0025	.0008	.0008	.0010	.0010
0.75	.02953	.0024	.0016	.0020	.0025	.0025	.0030	.0008	.0010	.0010	.0012
0.8	.03150	.0025	.0016	.0020	.0025	.0025	.0030	.0008	.0010	.0010	.0012
0.9	.03543	.0028	.0016	.0020	.0025	.0025	.0030	.0008	.0010	.0010	.0012
1	.03937	.0032	.0016	.0025	.0025	.0030	.0030	.0010	.0010	.0012	.0012
1.25	.04921	.0039	.0025	.0025	.0025	.0030	.0035	.0010	.0012	.0012	.0016
1.5	.05906	.0047	.0025	.0025	.0030	.0030	.0035	.0010	.0012	.0012	.0016
1.75	.06890	.0055	.0025	—	.0030	.0035	.0040	—	.0012	.0016	.0016
2	.07874	.0063	.0025	—	.0035	.0035	.0040	—	.0016	.0016	.0016
2.5	.09843	.0079	.0025	—	.0035	.0040	.0045	—	.0016	.0016	.0020
3	.11811	.0095	.0039	—	.0040	.0040	.0050	—	.0016	.0020	.0020
3.5	.13780	.0110	.0039	—	.0040	.0045	.0050	—	.0016	.0020	.0020
4	.15748	.0126	.0039	—	.0040	.0045	.0055	—	.0020	.0020	.0025
4.5	.17717	.0142	.0039	—	—	.0050	.0055	—	.0020	.0020	.0025
5	.19685	.0158	.0039	—	—	.0050	.0060	—	—	.0025	.0025
5.5	.21654	.0158	.0039	—	—	.0050	.0060	—	—	.0025	.0025
6	.23622	.0189	.0039	—	—	.0055	.0060	—	—	.0025	.0025



Fractional Sizes

Basic Thread Dimensions

nominal size & TPI	basic major diameter	basic pitch diameter	basic minor diameter	max minor diameter Class 3B internal thread
1/16 64	.0625	.0524	.0422	.0518
3/32 48	.0938	.0803	.0667	.0793
1/8 40	.1250	.1088	.0925	.1062
5/32 32	.1563	.1360	.1157	.1311
5/32 36	.1563	.1382	.1202	.1339
3/16 24	.1875	.1604	.1334	.1530
3/16 32	.1875	.1672	.1469	.1616
7/32 24	.2188	.1917	.1646	.1834
7/32 32	.2188	.1985	.1782	.1922
1/4 20	.2500	.2175	.1850	.2067
1/4 24	.2500	.2229	.1959	.2139
1/4 28	.2500	.2268	.2036	.2190
1/4 32	.2500	.2297	.2094	.2229
5/16 18	.3125	.2764	.2403	.2630
5/16 20	.3125	.2800	.2476	.2680
5/16 24	.3125	.2854	.2584	.2754
5/16 32	.3125	.2922	.2719	.2847
3/8 16	.3750	.3344	.2938	.3182
3/8 20	.3750	.3425	.3100	.3297
3/8 24	.3750	.3479	.3209	.3372
3/8 32	.3750	.3547	.3344	.3469
7/16 14	.4375	.3911	.3447	.3717
7/16 20	.4375	.4050	.3726	.3916
7/16 24	.4375	.4104	.3834	.3994
7/16 28	.4375	.4143	.3911	.4051
1/2 12	.5000	.4459	.3918	.4223
1/2 13	.5000	.4500	.4001	.4284
1/2 20	.5000	.4675	.4351	.4537
1/2 24	.5000	.4729	.4459	.4619
1/2 28	.5000	.4768	.4536	.4676
9/16 12	.5625	.5084	.4542	.4843
9/16 18	.5625	.5264	.4903	.5106
9/16 24	.5625	.5354	.5084	.5244
5/8 11	.6250	.5660	.5069	.5391
5/8 12	.6250	.5709	.5168	.5463
5/8 18	.6250	.5889	.5528	.5730
5/8 24	.6250	.5979	.5709	.5869
11/16 11	.6875	.6285	.5694	.6012
11/16 12	.6875	.6334	.5793	.6085
11/16 16	.6875	.6469	.6063	.6284
11/16 24	.6875	.6604	.6334	.6494
3/4 10	.7500	.6850	.6201	.6545
3/4 12	.7500	.6959	.6418	.6707

nominal size & TPI	basic major diameter	basic pitch diameter	basic minor diameter	max minor diameter Class 3B internal thread
3/4 16	.7500	.7094	.6688	.6908
3/4 20	.7500	.7175	.6850	.7037
13/16 12	.8125	.7584	.7042	.7329
13/16 16	.8125	.7719	.7313	.7533
13/16 20	.8125	.7800	.7475	.7662
7/8 9	.8750	.8028	.7307	.7681
7/8 12	.8750	.8209	.7668	.7952
7/8 14	.8750	.8286	.7822	.8068
7/8 16	.8750	.8344	.7938	.8158
7/8 18	.8750	.8389	.8028	.8230
7/8 20	.8750	.8425	.8100	.8287
15/16 12	.9375	.8834	.8293	.8575
15/16 16	.9375	.8969	.8563	.8783
15/16 20	.9375	.9050	.8725	.8912
1 8	1.0000	.9188	.8376	.8797
1 12	1.0000	.9459	.8918	.9198
1 14	1.0000	.9536	.9072	.9315
1 16	1.0000	.9594	.9188	.9408
1 20	1.0000	.9675	.9350	.9537
1 1/16 12	1.0625	1.0084	.9543	.9823
1 1/16 16	1.0625	1.0219	.9813	1.0033
1 1/16 18	1.0625	1.0264	.9903	1.0105
1 1/8 7	1.1250	1.0322	.9394	.9875
1 1/8 8	1.1250	1.0438	.9626	1.0047
1 1/8 12	1.1250	1.0709	1.0168	1.0448
1 1/8 16	1.1250	1.0844	1.0438	1.0658
1 1/8 18	1.1250	1.0889	1.0528	1.0730
1 3/16 12	1.1875	1.1334	1.0793	1.1073
1 3/16 16	1.1875	1.1469	1.1063	1.1283
1 3/16 18	1.1875	1.1514	1.1153	1.1355
1 1/4 7	1.2500	1.1572	1.0644	1.1125
1 1/4 8	1.2500	1.1688	1.0876	1.1297
1 1/4 12	1.2500	1.1959	1.1418	1.1698
1 1/4 16	1.2500	1.2094	1.1688	1.1908
1 1/4 18	1.2500	1.2139	1.1778	1.1980
1 5/16 12	1.3125	1.2584	1.2043	1.2323
1 5/16 16	1.3125	1.2719	1.2313	1.2533
1 5/16 18	1.3125	1.2764	1.2403	1.2605
1 3/8 6	1.3750	1.2667	1.1585	1.2146
1 3/8 8	1.3750	1.2938	1.2126	1.2547
1 3/8 12	1.3750	1.3209	1.2668	1.2948
1 3/8 16	1.3750	1.3344	1.2938	1.3158
1 3/8 18	1.3750	1.3389	1.3028	1.3230

continued on next page

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Basic Thread Dimensions

Fractional Sizes (continued)



- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index

nominal size & TPI	basic major diameter	basic pitch diameter	basic minor diameter	max minor diameter Class 3B internal thread
1 7/16 12	1.4375	1.3834	1.3293	1.3573
1 7/16 16	1.4375	1.3969	1.3563	1.3783
1 7/16 18	1.4375	1.4014	1.3653	1.3855
1 1/2 6	1.5000	1.3917	1.2835	1.3396
1 1/2 8	1.5000	1.4188	1.3376	1.3797
1 1/2 12	1.5000	1.4459	1.3918	1.4198
1 1/2 16	1.5000	1.4594	1.4188	1.4408
1 1/2 18	1.5000	1.4639	1.4278	1.4480
1 1/2 16	1.5625	1.5219	1.4813	1.5033
1 1/2 18	1.5625	1.5264	1.4903	1.5105
1 5/8 6	1.6250	1.5167	1.4085	1.4646
1 5/8 8	1.6250	1.5438	1.4626	1.5047
1 5/8 12	1.6250	1.5709	1.5168	1.5448
1 5/8 16	1.6250	1.5844	1.5438	1.5658
1 5/8 18	1.6250	1.5889	1.5528	1.5730
1 11/16 16	1.6875	1.6469	1.6063	1.6283
1 11/16 18	1.6875	1.6514	1.6153	1.6355
1 3/4 5	1.7500	1.6201	1.4902	1.5575
1 3/4 8	1.7500	1.6688	1.5876	1.6297
1 3/4 12	1.7500	1.6959	1.6418	1.6698
1 3/4 16	1.7500	1.7094	1.6688	1.6908
1 13/16 16	1.8125	1.7719	1.7313	1.7533
1 7/8 8	1.8750	1.7938	1.7126	1.7547
1 7/8 12	1.8750	1.8209	1.7668	1.7948
1 7/8 16	1.8750	1.8344	1.7938	1.8158
1 15/16 16	1.9375	1.8969	1.8563	1.8783
2 4 1/2	2.0000	1.8557	1.7113	1.7861
2 8	2.0000	1.9188	1.8376	1.8797
2 12	2.0000	1.9459	1.8918	1.9198
2 16	2.0000	1.9594	1.9188	1.9408
2 1/16 16	2.0625	2.0219	1.9813	2.0033
2 1/8 8	2.1250	2.0438	1.9626	2.0047
2 1/8 12	2.1250	2.0709	2.0168	2.0448
2 1/8 16	2.1250	2.0844	2.0438	2.0658
2 3/16 16	2.1875	2.1469	2.1063	2.1283
2 1/4 4 1/2	2.2500	2.1057	1.9613	2.0361
2 1/4 8	2.2500	2.1688	2.0876	2.1297
2 1/4 12	2.2500	2.1959	2.1418	2.1698
2 1/4 16	2.2500	2.2094	2.1688	2.1908
2 5/16 16	2.3125	2.2719	2.2313	2.2533
2 3/8 12	2.3750	2.3209	2.2668	2.2948
2 3/8 16	2.3750	2.3344	2.2938	2.3158

nominal size & TPI	basic major diameter	basic pitch diameter	basic minor diameter	max minor diameter Class 3B internal thread
2 7/16 16	2.4375	2.3969	2.3563	2.3783
2 1/2 4	2.5000	2.3376	2.1752	2.2594
2 1/2 8	2.5000	2.4188	2.3376	2.3797
2 1/2 12	2.5000	2.4459	2.3918	2.4198
2 1/2 16	2.5000	2.4594	2.4188	2.4408
2 5/8 12	2.6250	2.5709	2.5168	2.5448
2 5/8 16	2.6250	2.5844	2.5438	2.5658
2 3/4 4	2.7500	2.5876	2.4252	2.5094
2 3/4 8	2.7500	2.6688	2.5876	2.6297
2 3/4 12	2.7500	2.6959	2.6418	2.6698
2 3/4 16	2.7500	2.7094	2.6688	2.6908
2 7/8 12	2.8750	2.8209	2.7668	2.7948
2 7/8 16	2.8750	2.8344	2.7938	2.8158
3 4	3.0000	2.8376	2.6752	2.7594
3 8	3.0000	2.9188	2.8376	2.8797
3 12	3.0000	2.9459	2.8918	2.9198
3 16	3.0000	2.9594	2.9188	2.9408
3 1/8 12	3.1250	3.0709	3.0168	3.0448
3 1/8 16	3.1250	3.0844	3.0438	3.0658
3 1/4 4	3.2500	3.0876	2.9252	3.0094
3 1/4 8	3.2500	3.1688	3.0876	3.1297
3 1/4 12	3.2500	3.1959	3.1418	3.1698
3 1/4 16	3.2500	3.2094	3.1688	3.1908
3 3/8 12	3.3750	3.3209	3.2668	3.2948
3 3/8 16	3.3750	3.3344	3.2938	3.3158
3 3/8 4	3.5000	3.3376	3.1752	3.2594
3 1/2 8	3.5000	3.4188	3.3376	3.3797
3 1/2 12	3.5000	3.4459	3.3918	3.4198
3 1/2 16	3.5000	3.4594	3.4188	3.4408
3 5/8 12	3.6250	3.5709	3.5168	3.5448
3 5/8 16	3.6250	3.5844	3.5438	3.5658
3 3/4 4	3.7500	3.5876	3.4252	3.5094
3 3/4 8	3.7500	3.6688	3.5876	3.6297
3 3/4 12	3.7500	3.6959	3.6418	3.6698
3 3/4 16	3.8750	3.7094	3.6688	3.6908
3 7/8 12	3.8750	3.8209	3.7669	3.7948
3 7/8 16	3.8750	3.8344	3.7938	3.8158
4 4	4.0000	3.8376	3.6752	3.7594
4 8	4.0000	3.9188	3.8376	3.8797
4 12	4.0000	3.9459	3.8918	3.9198
4 16	4.0000	3.9594	3.9188	3.9408
4 16	1.8125	1.7719	1.7313	1.7533



Thread Dimensions

nominal size & TPI		basic major diameter	basic pitch diameter	basic minor diameter	max minor diameter Class 3B internal thread	nominal size & TPI		basic major diameter	basic pitch diameter	basic minor diameter	max minor diameter Class 3B internal thread
0	80	.0600	.0519	.0438	.0514	6	32	.1380	.1177	.0974	.1140
1	64	.0730	.0629	.0527	.0623	6	36	.1380	.1200	.1019	.1165
1	72	.0730	.0640	.0550	.0635	6	40	.1380	.1218	.1055	.1186
2	56	.0860	.0744	.0628	.0737	8	32	.1640	.1437	.1234	.1389
2	64	.0860	.0759	.0657	.0753	8	36	.1640	.1460	.1279	.1416
3	48	.0990	.0855	.0719	.0845	8	40	.1640	.1478	.1315	.1437
3	56	.0990	.0874	.0758	.0865	10	24	.1900	.1629	.1359	.1516
4	32	.1120	.0917	.0714	.0880	10	28	.1900	.1668	.1436	.1604
4	36	.1120	.0940	.0759	.0919	10	30	.1900	.1684	.1467	.1630
4	40	.1120	.0958	.0795	.0939	10	32	.1900	.1697	.1494	.1641
4	48	.1120	.0985	.0849	.0968	12	24	.2160	.1889	.1619	.1807
5	40	.1250	.1088	.0925	.1062	12	28	.2160	.1928	.1696	.1857
5	44	.1250	.1102	.0955	.1079	12	32	.2160	.1957	.1754	.1895
						14	20	.2420	.2095	.1770	.1987
						14	24	.2420	.2149	.1879	.2059

Constants for Finding Pitch Diameter and Minor Diameter of Screw Threads

Basic Pitch Diameter = Basic Major Diameter – Constant for Basic Pitch Diameter for TPI
 Basic Minor Diameter = Basic Major Diameter – Constant for Basic Minor Diameter for TPI

threads per inch		pitch	constant for basic pitch dia.		constant for basic minor dia.		threads per inch		pitch	constant for basic pitch dia.		constant for basic minor dia.	
in	mm	in	Unified	ISO	Unified	ISO	in	mm	in	Unified	ISO	Unified	ISO
-	.0079	0.2	-	.00511	-	.01022	18	.0555	-	.03608	-	.07216	-
-	.0088	0.225	-	.00575	-	.01150	-	.0590	1.5	-	.03836	-	.07672
-	.0098	0.25	-	.00639	-	.01278	16	.0625	-	.04060	-	.08120	-
-	.0118	0.3	-	.00767	-	.01534	-	.0689	1.75	-	.04475	-	.08950
80	.0125	-	.00812	-	.01624	-	14	.0714	-	.04639	-	.09278	-
-	.0138	0.35	-	.00895	-	.01790	13	.0769	-	.04996	-	.09992	-
72	.0139	-	.00902	-	.01804	-	-	.0787	2.0	-	.05117	-	.10228
64	.0156	-	.01015	-	.02030	-	12	.0833	-	.05413	-	.10826	-
-	.0157	0.4	-	.01023	-	.02046	11.5	.0869	-	.05648	-	.11296	-
-	.0177	0.45	-	.01151	-	.02302	11	.0909	-	.05905	-	.11810	-
56	.0178	-	.01160	-	.02320	-	-	.0984	2.5	-	.06393	-	.12786
-	.0197	0.5	-	.01279	-	.02558	10	.1000	-	.06495	-	.12990	-
48	.0208	-	.01353	-	.02706	-	9	.1111	-	.07217	-	.14434	-
44	.0227	-	.01476	-	.02952	-	-	.1181	3.0	-	.07672	-	.15344
-	.0236	0.6	-	.01534	-	.03068	8	.1250	-	.08119	-	.16238	-
40	.0250	-	.01624	-	.03248	-	-	.1378	3.5	-	.08950	-	.17900
-	.0275	0.7	-	.01790	-	.03580	7	.1428	-	.09279	-	.18558	-
36	.0278	-	.01804	-	.03608	-	-	.1575	4.0	-	.10229	-	.20458
-	.0295	0.75	-	.01918	-	.03836	6	.1667	-	.10825	-	.21650	-
32	.0312	-	.02030	-	.04060	-	-	.1772	4.5	-	.11507	-	.23014
-	.0315	0.8	-	.02046	-	.04092	5	.1968	-	.12786	-	.25572	-
28	.0357	-	.02320	-	.04640	-	4.5	.2000	-	.12990	-	.25980	-
27	.0370	-	.02406	-	.04812	-	-	.2165	5.5	-	.14064	-	.28128
-	.0394	1.0	-	.02557	-	.05114	4.5	.2222	-	.14434	-	.28868	-
24	.0417	-	.02706	-	.05412	-	-	.2362	6.0	-	.15343	-	.30353
-	.0492	1.25	-	.03196	-	.06392	4	.2500	-	.16238	-	.32476	-
20	.0500	-	.03248	-	.06496	-							

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index



Prices for special taps are available upon request. Special taps can be furnished in quantities to meet your specific requirements. All special metric taps will produce internal threads which conform to ISO, ISO modified, and the

obsolete OMFS thread systems and are manufactured to USCTI standard blank dimensions to fit the tap holders and machine spindles now in use in the USA.

Call Customer Service at 800.348.2885 for your quote.

General

The following tables and formulae are used in determining the limits and tolerances for ground thread taps having special diameter or special pitch or both and having a thread lead angle not in excess of 5%, unless otherwise specified. This table does not apply to the diameter and pitch combinations shown in Tables 327 and 329.

Note: When the tap major diameter must be determined from a specific tap pitch diameter, the maximum major diameter = the minimum specified pitch diameter – constant C, + constant A.

Lead Tolerance

A maximum lead error of + / - .0005" in 1" of thread is permitted.

Angle Tolerance

Threads Per Inch	Error in Half Angle
4 to 5-1/2 inclusive	20' + / -
6 to 9 inclusive	25' + / -
10 to 80 inclusive	30' + / -

Formulae

- Max. Major Diameter = Basic Major Diameter + A
- Min. Major Diameter = Max. Major Diameter – B
- Max. Pitch Diameter = Min. Pitch Diameter + D
- Min. Pitch Diameter = Basic Pitch Diameter + C

A = constant to add:

- 35% of the theoretical truncation for 4 to 5 threads per inch
- 40% for 5-1/2 to 12 threads per inch
- 45% for 13 to 80 threads per inch
- to nearest .005" for 8 or more threads per inch

B = Major diameter tolerance

C = Amount over basic for minimum pitch diameter

D = Pitch diameter tolerance

Values for A, B, C, and D

threads per inch	A	B	C thru 5/8"	C over 5/8" thru 2-1/2"	C over 2-1/2"	D thru 1"	D over 1" thru 1-1/2"	D over 1-1/2" thru 2-1/2"	D over 2-1/2"
80	.0015	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
56	.0015	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
48	.0020	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
44	.0020	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
40	.0025	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
36	.0025	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
32	.0030	.0010	.0010	.0010	.0015	.0005	.0010	.0010	.0015
28	.0035	.0010	.0010	.0010	.0015	.0005	.0010	.0010	.0015
24	.0040	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0015
20	.0050	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0015
18	.0055	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0015
16	.0060	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0020
14	.0070	.0010	.0010	.0015	.0015	.0005	.0010	.0015	.0020
13	.0075	.0010	.0010	.0015	.0015	.0005	.0010	.0015	.0020
12	.0075	.0010	.0010	.0015	.0015	.0005	.0010	.0015	.0020
11	.0080	.0010	.0010	.0015	.0020	.0005	.0010	.0015	.0020
10	.0090	.0015	-	.0015	.0020	.0005	.0010	.0015	.0020
9	.0100	.0015	-	.0015	.0020	.0005	.0010	.0015	.0020
8	.0110	.0015	-	.0015	.0020	.0005	.0010	.0015	.0020
7	.0120	.0020	-	.0015	.0020	.0010	.0010	.0020	.0025
6	.0140	.0020	-	.0015	.0020	.0010	.0010	.0020	.0025
5 1/2	.0160	.0025	-	.0015	.0020	.0010	.0015	.0020	.0025
5	.0160	.0025	-	.0015	.0020	.0010	.0015	.0020	.0025
4 1/2	.0170	.0025	-	.0015	.0020	.0010	.0015	.0020	.0025
4	.0190	.0025	-	.0015	.0020	.0010	.0015	.0020	.0025

For intermediate pitches use value for next coarser pitch



Sets

Sets
Cost Saving / Organize

See product specific page for additional information

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index

set number	no. of pieces	H-limit / flutes	sizes	case type	order number HTGP / SPGP
Hand Tap - Straight Flute, General Purpose					
	3		See product page for set - Includes Taper, Plug, and Bottoming Tap		see product page
Plug Hand Tap					
303SET	10	H3, 4	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	metal	330082
Jobber Drill (Bright), Plug Hand Tap					
HT18	18	H3, 4	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 6-32, 8-32, 10-24, 10-32		330083
		Jobber	5/16, 27/64, LET-F, LET-U, #7, #21, #25, #29, #36		
Jobber Drill (Titanium), Plug Hand Tap - TiN					
HT18T	18	H3, 4	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 6-32, 8-32, 10-24, 10-32		330084
		Jobber	5/16, 27/64, #7, #21, #25, #29, #36, LET-F, LET-U		
Jobber Drill (Bright), Plug Spiral PT Tap					
GT18	18	H3, 2	1/4-20, 5/16-18, 6-32, 8-32, 10-24, 10-32		330085
		H3, 3	3/8-16, 7/16-14, 1/2-13		
		Jobber	5/16, 27/64, LET-F, LET-U, #7, #21, #25, #29, #36		
Jobber Drill (Bright), Plug NC/NF Hand Tap					
HT36	36	H2, 3	6-40		330086
		H2, 4	8-36		
		H3, 4	6-32		
		H3, 3	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 8-32, 10-24, 10-32, 12-24, 12-28		
		Jobber	5/16, 25/64, 27/64, 29/64, LET-F, LET-I, LET-Q, LET-U, #3, #7, #15, #16, #21, #25, #29, #33, #36		
Screw Machine Drill (Bright), Plug Hand Tap					
68	20	H2, 3	4-40, 5-40		330087
		H3, 3	6-32		
		H3, 4	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 8-32, 10-24		
		Screw Machine	5/16, 27/64, #7, #25, #29, #36, #39, #44, LET-F, LET-U		
Jobber Drill (Black Oxide), Plug Hand Tap					
HM18	18	D3, 3	M2.5x0.45, M3x0.5		330088
		D4, 3	M3.5x0.6, M4x0.7		
		D4, 4	M5x0.8		
		D5, 4	M6X1.0, M8X1.25		
		D6, 4	M10x1.5, M12x1.75		
		Jobber	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.5, 10.20		

set number	no. of sizes	die sizes	case type	order number
Taper Pipe Sets - NPT/NPTF Medium Hook				
		NPT Pipe Tap: 1/8 - 1" NPT	wood	Style: PTT 353768
Re-threading Dies - Carbon Steel				
481	8	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10	metal	Style: 377 403512
482	10	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8	metal	403553
490	10	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	metal	403520
492	20	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-14	metal	403595
485	7	M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M16 x 2, M20 x 2.5	metal	403522





Sets

Cost Saving / Organize

Set (continued)

See product specific page for additional information

Machine Taps	set number	no. of sizes	tap & die sizes	tap wrench	die stock	order number	
	OK Jr. Tap & Die Sets: HSS Production Hand Taps / Carbon Steel Round Adjustable Dies - Inch						
	17	7	Course Thrd (UNC): 4-40, 6-32, 8-32, 10-24, 12-24, 1/4-20 Fine Thrd (UNF): 10-32	329	13	423001	
	18	5	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	333	14	423002	
	25	8	Course Thrd (UNC): 2-56, 3-48, 4-40, 6-32, 8-32, 10-24 Fine Thrd (UNF): 0-80, 1-72	329	13	423003	
	T4	8	Course Thrd (UNC): 2-56, 3-48, 4-40, 6-32, 8-32, 10-24, 12-24 Fine Thrd (UNF): 10-32	0	1851	420359	
	T6	20	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-18, 7/8-14, 1-12	7	1852	420363	
	28	11	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 Pipe Size (Short shank): 1/8-27	333	1	423004	
	32	21	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14 UNS: 1-14 Pipe Size (Long shank): 1/8-27	15 7	14 15 16	423005	
	33	28 Taps 15 Dies	Course Thrd (UNC): 4-40, 6-32, 8-32, 10-24, 12-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12 Fine Thrd (UNF): 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14 UNS: 1-14 Pipe Size: 1/8-27, 1/4-18, 3/8-18, 1/2-14	329	14 15 16 7	423006	
	Tap & Die Set: with Production Hand Taps and HSS Round Adjustable Dies - Metric						
	48	7	M2.5 x 0.45, M3 x 0.5, M3.5 x 0.6, M4 x 0.7, M4.5 x 0.75, M5 x 0.8, M6 x 1.0 Screwdriver: 300	333	1790	420365	
	49	5	M6 x 1.0, M7 x 1.0, M8 x 1.25, M10 x 1.5, M12 x 1.75 Screwdriver: 300	333	1790	420367	
	Tap & Die Set: with Production Hand Taps, Black Oxide Jobber Length Drills, and HSS Round Adjustable Dies - Metric						
	49D	5	M6 x 1.0, M7 x 1.0, M8 x 1.25, M10 x 1.5, M12 x 1.75 Drill Sizes: 5.0, 6.0, 6.7, 8.5, 10.2 Screwdriver: 300	333	1790	420368	
Technical Info	set number	no. of sizes	tap & die sizes	collet number	tap wrench	die stock	order number
	Tap & Die Set: without Collet						
	59	7	Course Thrd (UNC): 4-40, 6-32, 8-32, 10-24, 12-24, 1/4-20 NC Fine Thrd (UNF): 10-32	A1	T9, A1	A1	423159
	510	5	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	1	#5, #7	#1	423160
	511	10	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-8	5	#5	5A	423161
	512	10	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	1	#5	#1	423162
	513	20	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-14	1, 5	#5 #7	#1 #5B	423163
	514	7	M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2, M16 x 2, M18 x 2.5	5	#6	#5	423164
	58	20	Course Thrd (UNC): 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8 Fine Thrd (UNF): 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14 UNS: 1-14	—	#5 #7	#1 #5	423165
	Screw Extractors						Style: 335
	15 Set	5 pcs.	Sizes: #1 through #5	—	—	—	422006



Reference Information

Index

Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number
172949	HTGP	7	173020	SPGP	14	173090	HTGP	10	173160	HTGP	8	173230	HTGP	8
172950	HTGP	7	173021	SPGP	14	173091	HTGP	10	173161	HTGP	8	173231	HTGP	8
172951	HTGP	7	173022	SPGP	14	173092	HTGP	7	173162	HTGP	9	173232	HTGP	8
172952	HTGP	7	173023	SPGP	14	173093	HTGP	7	173163	HTGP	9	173233	HTGP	8
172953	HTGP	7	173024	SPGP	13	173094	HTGP	8	173164	HTGP	9	173234	HTGP	8
172954	HTGP	7	173025	SPGP	13	173095	HTGP	8	173165	HTGP	9	173235	HTGP	10
172956	HTGP	7	173026	SPGP	13	173096	HTGP	8	173166	HTGP	9	173236	HTGP	10
172957	HTGP	7	173027	SPGP	13	173097	HTGP	8	173167	HTGP	9	173237	HTGP	10
172958	HTGP	7	173029	SPGP	14	173098	HTGP	8	173168	HTGP	9	173238	HTGP	10
172959	HTGP	7	173030	SPGP	14	173099	HTGP	9	173169	HTGP	9	173239	HTGP	10
172960	HTGP	7	173031	SPGP	14	173100	HTGP	9	173170	HTGP	9	173955	HTGP	7
172961	HTGP	7	173032	SPGP	14	173101	HTGP	9	173171	HTGP	9	174503	HTGP	9
172962	HTGP	7	173033	SPGP	14	173102	HTGP	9	173172	HTGP	9	174504	HTGP	9
172963	HTGP	7	173034	SPGP	14	173103	HTGP	9	173173	HTGP	9	174505	HTGP	9
172964	HTGP	7	173035	SPGP	14	173104	HTGP	9	173174	HTGP	9	174506	HTGP	8
172965	HTGP	7	173036	SPGP	14	173105	HTGP	9	173175	HTGP	9	174507	HTGP	8
172966	HTGP	7	173037	SPGP	14	173106	HTGP	9	173176	HTGP	9	174508	HTGP	8
172967	HTGP	7	173038	SPGP	15	173107	HTGP	9	173177	HTGP	9	174509	HTGP	8
172968	HTGP	8	173039	SPGP	15	173108	HTGP	9	173178	HTGP	9	174510	HTGP	8
172969	HTGP	8	173040	SPGP	15	173109	HTGP	9	173179	HTGP	9	174511	HTGP	7
172970	HTGP	8	173041	SPGP	15	173110	HTGP	9	173180	HTGP	10	174513	HTGP	9
172971	HTGP	8	173042	SPGP	15	173111	HTGP	9	173181	HTGP	10	174514	HTGP	9
172972	HTGP	8	173043	SPGP	15	173112	HTGP	9	173182	HTGP	7	174516	HTGP	10
172973	HTGP	8	173044	SPGP	15	173113	HTGP	9	173183	HTGP	7	174519	HTGP	10
172974	HTGP	8	173045	SPGP	15	173114	HTGP	9	173184	HTGP	7	174520	HTGP	10
172975	HTGP	8	173046	SPGP	15	173115	HTGP	9	173185	HTGP	7	174521	HTGP	10
172976	HTGP	8	173047	SPGP	15	173117	HTGP	7	173186	HTGP	7	174522	HTGP	10
172977	HTGP	8	173048	SPGP	15	173118	HTGP	7	173187	HTGP	7	174524	HTGP	10
172979	HTGP	8	173049	SPGP	15	173119	HTGP	7	173188	HTGP	7	174528	HTGP	8
172980	HTGP	8	173050	SPGP	13	173120	HTGP	7	173189	HTGP	8	174529	HTGP	9
172981	HTGP	8	173051	SPGP	14	173121	HTGP	7	173190	HTGP	8	174530	HTGP	7
172982	HTGP	8	173052	SPGP	14	173122	HTGP	7	173191	HTGP	8	174531	HTGP	7
172983	HTGP	8	173053	SPGP	14	173123	HTGP	7	173192	HTGP	8	174532	HTGP	8
172984	HTGP	8	173054	SPGP	14	173124	HTGP	7	173193	HTGP	8	174533	HTGP	8
172985	HTGP	8	173055	HTGP	7	173125	HTGP	8	173194	HTGP	8	174534	HTGP	9
172986	HTGP	8	173056	HTGP	7	173126	HTGP	8	173195	HTGP	8	174535	HTGP	9
172987	HTGP	8	173057	HTGP	7	173127	HTGP	8	173196	HTGP	8	174536	HTGP	7
172988	HTGP	8	173058	HTGP	7	173128	HTGP	8	173197	HTGP	9	174537	HTGP	7
172989	HTGP	8	173059	HTGP	7	173129	HTGP	8	173198	HTGP	10	174538	HTGP	7
172990	HTGP	8	173060	HTGP	7	173129	HTGP	8	173199	HTGP	10	174539	HTGP	7
172991	HTGP	9	173061	HTGP	7	173130	HTGP	8	173200	HTGP	10	174540	HTGP	9
172992	HTGP	9	173062	HTGP	7	173131	HTGP	8	173201	HTGP	10	174541	HTGP	9
172993	HTGP	9	173063	HTGP	7	173132	HTGP	8	173202	HTGP	10	174542	HTGP	9
172994	HTGP	9	173064	HTGP	8	173133	HTGP	8	173203	HTGP	7	174543	HTGP	9
172995	HTGP	9	173065	HTGP	8	173134	HTGP	8	173204	HTGP	7	174544	HTGP	7
172996	HTGP	9	173066	HTGP	8	173135	HTGP	8	173205	HTGP	7	174545	HTGP	8
172997	HTGP	9	173067	HTGP	8	173136	HTGP	9	173206	HTGP	7	174546	HTGP	9
172998	HTGP	9	173068	HTGP	8	173137	HTGP	10	173207	HTGP	7	174548	HTGP	10
172999	HTGP	9	173069	HTGP	8	173138	HTGP	10	173208	HTGP	7	174549	HTGP	10
173000	SPGP	13	173070	HTGP	8	173139	HTGP	10	173209	HTGP	7	174550	HTGP	10
173001	SPGP	13	173071	HTGP	8	173140	HTGP	10	173210	HTGP	7	174551	HTGP	10
173002	SPGP	13	173072	HTGP	8	173141	HTGP	7	173211	HTGP	7	174552	HTGP	10
173003	SPGP	13	173073	HTGP	8	173142	HTGP	7	173212	HTGP	8	174553	HTGP	10
173004	SPGP	13	173074	HTGP	8	173143	HTGP	7	173213	HTGP	8	174559	HTGP	10
173005	SPGP	14	173075	HTGP	9	173144	HTGP	8	173214	HTGP	8	174560	HTGP	10
173006	SPGP	14	173076	HTGP	9	173145	HTGP	8	173215	HTGP	8	174561	HTGP	10
173007	SPGP	14	173077	HTGP	10	173146	HTGP	9	173216	HTGP	8	272550	SPHD	21
173008	SPGP	14	173078	HTGP	7	173147	HTGP	9	173217	HTGP	8	280108	SPHD	21
173009	SPGP	14	173079	HTGP	7	173148	HTGP	9	173218	HTGP	8	280157	SPHD	21
173010	SPGP	14	173080	HTGP	7	173149	HTGP	9	173219	HTGP	8	280207	SPHD	21
173011	SPGP	15	173081	HTGP	7	173150	HTGP	9	173220	HTGP	9	280256	SPHD	21
173012	SPGP	13	173082	HTGP	7	173151	HTGP	7	173221	HTGP	10	280306	SPHD	21
173013	SPGP	13	173083	HTGP	8	173152	HTGP	7	173222	HTGP	10	280355	SPHD	21
173014	SPGP	13	173084	HTGP	8	173153	HTGP	7	173223	HTGP	10	280405	SPHD	21
173015	SPGP	15	173085	HTGP	8	173154	HTGP	8	173224	HTGP	10	280454	SPHD	21
173016	SPGP	15	173086	HTGP	8	173155	HTGP	8	173225	HTGP	10	280470	SPHD	21
173017	SPGP	15	173087	HTGP	10	173156	HTGP	8	173226	HTGP	10	280504	SPHD	21
173018	SPGP	15	173088	HTGP	10	173157	HTGP	8	173227	HTGP	7	280553	SPHD	21
173019	SPGP	13	173089	HTGP	10	173158	HTGP	8	173228	HTGP	7	280603	SPHD	21
						173159	HTGP	8	173229	HTGP	7	280652	SPHD	21

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Index

Reference Information

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index

Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number
280801	SPHD	21	287301	FTGP	26	291246	FTGP	26	301474	HTGP	7	305024	HTGP	8
280850	SPHD	21	287350	FTGP	26	291253	FTGP	26	301478	HTGP	7	305033	HTGP	8
280901	SPHD	21	287400	FTGP	26	291257	FTGP	26	301482	HTGP	7	305040	HTGP	8
280959	SPHD	21	287459	FTGP	26	291287	FTGP	26	301486	HTGP	7	305057	HTGP	8
281957	SFHD	23	287509	FTGP	26	291295	FTGP	26	301490	HTGP	7	305061	HTGP	8
282005	SFHD	23	287558	FTGP	26	300016	SPGP	14	301494	HTGP	7	305065	HTGP	8
282054	SFHD	23	287608	FTGP	26	300041	HTGP	7	301544	HTGP	7	305073	HTGP	8
282062	SFHD	23	287657	FTGP	26	300047	HTGP	7	301551	HTGP	7	305079	HTGP	8
282104	SFHD	23	287707	FTGP	26	300054	HTGP	7	301577	HTGP	7	305081	HTGP	8
282108	SPHD	21	287756	FTGP	26	300058	HTGP	7	301585	HTGP	7	305087	HTGP	8
282120	SFHD	23	287905	FTGP	26	300165	HTGP	7	301635	HTGP	7	305103	HTGP	8
282153	SFHD	23	287954	FTGP	26	300216	HTHM	6	301643	HTGP	7	305107	HTGP	8
282157	SPHD	21	288101	FTGP	26	300217	HTHM	6	301668	HTGP	7	305111	HTGP	8
282203	SFHD	23	288150	FTGP	26	300218	HTHM	6	301676	HTGP	7	305115	HTGP	8
282207	SPHD	21	288408	FTGP	26	300219	HTHM	6	301718	HTGP	7	305198	HTGP	8
282252	SFHD	23	288457	FTGP	26	300264	HTGP	7	301726	HTGP	7	305206	HTGP	8
282256	SPHD	21	289004	FTGP	26	300272	HTGP	7	301734	HTGP	7	305209	HTGP	8
282302	SFHD	23	289012	FTGP	26	300278	HTGP	7	301742	HTGP	7	305210	HTGP	8
282306	SPHD	21	289087	FTGP	26	300280	HTGP	7	301748	HTGP	7	305214	HTGP	8
282351	SFHD	23	289095	FTGP	26	300286	HTGP	7	301755	HTGP	7	305222	HTGP	8
282355	SPHD	21	289202	FTGP	26	300294	HTGP	7	301759	HTGP	7	305228	HTGP	8
282401	SFHD	23	289210	FTGP	26	300299	HTGP	7	301763	HTGP	7	305230	HTGP	8
282405	SPHD	21	289228	FTGP	26	300512	HTGP	7	301767	HTGP	7	305236	HTGP	8
282450	SFHD	23	289236	FTGP	26	300520	HTGP	7	301920	HTGP	8	305370	HTGP	8
282454	SPHD	21	289269	FTGP	26	300526	HTGP	7	301924	HTGP	8	305388	HTGP	8
282468	SFHD	23	289277	FTGP	26	300538	HTGP	7	301933	HTGP	8	305392	HTGP	8
282470	SPHD	21	289285	FTGP	26	300637	HTGP	7	301938	HTGP	8	305396	HTGP	8
282501	SFHD	23	289293	FTGP	26	300645	HTGP	7	301940	HTGP	8	305403	HTGP	8
282504	SPHD	21	289368	FTGP	26	300652	HTGP	7	301946	HTGP	8	305404	HTGP	8
282526	SFHD	23	289376	FTGP	26	300769	HTGP	7	301999	HTGP	8	305412	HTGP	8
282553	SPHD	21	289384	FTGP	26	300778	HTGP	7	302021	HTGP	8	305418	HTGP	8
282559	SFHD	23	289392	FTGP	26	300815	HTGP	7	302039	HTGP	8	305438	HTGP	8
282567	SFHD	23	289426	FTGP	26	300819	HTGP	7	302112	HTGP	8	305446	HTGP	8
282603	SPHD	21	289434	FTGP	26	300823	HTGP	7	302120	HTGP	8	305511	HTGP	8
282609	SFHD	23	289442	FTGP	26	300827	HTGP	7	302161	HTGP	8	305517	HTGP	8
282625	SFHD	23	289459	FTGP	26	300831	HTGP	7	302179	HTGP	8	305525	HTGP	8
282652	SPHD	21	289525	FTGP	26	300835	HTGP	7	302187	HTGP	8	305529	HTGP	8
282757	SFHD	23	289533	FTGP	26	300930	HTGP	7	302191	HTGP	8	305533	HTGP	8
282765	SFHD	23	289541	FTGP	26	300934	HTGP	7	302195	HTGP	8	305537	HTGP	8
282801	SPHD	21	289558	FTGP	26	300942	HTGP	7	302203	HTGP	8	305552	HTGP	8
282807	SFHD	23	289582	FTGP	26	300948	HTGP	7	302209	HTGP	8	305560	HTGP	8
282823	SPHD	23	289590	FTGP	26	300955	HTGP	7	302211	HTGP	8	305676	HTGP	8
282850	SPHD	21	289640	FTGP	26	300959	HTGP	7	302217	HTGP	8	305677	HTGP	8
282901	SPHD	21	289657	FTGP	26	301007	HTGP	7	302260	HTGP	8	305685	HTGP	8
282959	SPHD	21	289665	FTGP	26	301015	HTGP	7	302278	HTGP	8	305693	HTGP	8
285057	SPAR	20	289673	FTGP	26	301052	HTGP	7	302294	HTGP	8	305699	HTGP	8
285107	SPAR	20	289780	FTGP	26	301056	HTGP	7	302302	HTGP	8	305701	HTGP	8
285156	SPAR	20	289798	FTGP	26	301060	HTGP	7	302385	HTGP	8	305707	HTGP	8
285206	SPAR	20	289988	FTGP	26	301064	HTGP	7	302393	HTGP	8	305715	HTGP	8
285222	SPAR	20	289996	FTGP	26	301072	HTGP	7	302435	HTGP	8	305719	HTGP	8
285255	SPAR	20	291001	FTGP	26	301078	HTGP	7	302443	HTGP	8	305731	HTGP	8
285354	SPAR	20	291006	FTGP	26	301171	HTGP	7	302450	HTGP	8	305735	HTGP	8
285370	SPAR	20	291014	FTGP	26	301177	HTGP	7	302464	HTGP	8	305743	HTGP	8
285404	SPAR	20	291018	FTGP	26	301189	HTGP	7	302468	HTGP	8	305749	HTGP	8
285453	SPAR	20	291083	FTGP	26	301193	HTGP	7	302472	HTGP	8	305814	HTGP	9
285479	SPAR	20	291089	FTGP	26	301197	HTGP	7	302476	HTGP	8	305818	HTGP	9
285503	SPAR	20	291091	FTGP	26	301247	HTGP	7	302480	HTGP	8	305822	HTGP	9
285552	SPAR	20	291097	FTGP	26	301254	HTGP	7	302484	HTGP	8	305826	HTGP	9
285628	SPAR	20	291123	FTGP	26	301270	HTGP	7	302522	HTGP	8	305830	HTGP	9
285651	SPAR	20	291125	FTGP	26	301288	HTGP	7	302526	HTGP	8	305834	HTGP	9
285701	SPAR	20	291133	FTGP	26	301320	HTGP	7	302530	HTGP	8	305990	HTGP	9
285801	SPAR	20	291139	FTGP	26	301338	HTGP	7	302534	HTGP	8	305996	HTGP	9
285859	SPAR	20	291162	FTGP	26	301346	HTGP	7	302542	HTGP	8	306002	HTGP	9
287004	FTGP	26	291166	FTGP	26	301353	HTGP	7	302548	HTGP	8	306006	HTGP	9
287053	FTGP	26	291170	FTGP	26	301359	HTGP	7	302583	HTGP	8	306010	HTGP	9
287103	FTGP	26	291174	FTGP	26	301361	HTGP	7	302591	HTGP	8	306014	HTGP	9
287152	FTGP	26	291176	FTGP	26	301367	HTGP	7	302609	HTGP	8	306030	HTGP	9
287202	FTGP	26	291178	FTGP	26	301375	HTGP	7	305008	HTGP	8	306036	HTGP	9
287251	FTGP	26	291240	FTGP	26	301379	HTGP	7	305016	HTGP	8	306044	HTGP	9



Reference Information

Index

Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number
306048	HTGP	9	307475	HTGP	9	313510	SPGP+5	17	313579	SPGP+5	17	326368	HTGP	8
306113	HTGP	9	307483	HTGP	9	313511	SPGP+5	17	313580	SFGP+5	25	326376	HTGP	8
306119	HTGP	9	307489	HTGP	9	313512	SPGP+5	17	313581	SFGP+5	25	326442	HTGP	8
306121	HTGP	9	307703	HTGP	9	313513	SPGP+5	17	313582	SFGP+5	25	326459	HTGP	8
306127	HTGP	9	307707	HTGP	9	313514	SPGP+5	17	313583	SFGP+5	25	326521	HTGP	8
306135	HTGP	9	307711	HTGP	9	313515	SPGP+5	17	313584	SFGP+5	25	326525	HTGP	8
306139	HTGP	9	307715	HTGP	9	313516	SPGP+5	17	313585	SFGP+5	25	326533	HTGP	8
306154	HTGP	9	307723	HTGP	9	313517	SPGP+5	17	313586	SFGP+5	25	326539	HTGP	8
306157	HTGP	9	307729	HTGP	9	313518	SPGP+5	17	313587	SFGP+5	25	326608	HTGP	8
306162	HTGP	9	307822	HTGP	9	313519	SPGP+5	17	313588	SFGP+5	25	326616	HTGP	8
306165	HTGP	9	307828	HTGP	9	313520	SPGP+5	17	313589	SFGP+5	25	326681	HTGP	9
306246	HTGP	9	307830	HTGP	9	313521	SPGP+5	17	313590	SFGP+5	25	326699	HTGP	9
306291	HTGP	9	307836	HTGP	9	313522	SPGP+5	17	313591	SFGP+5	25	326707	HTGP	9
306295	HTGP	9	307844	HTGP	9	313523	SPGP+5	17	313592	SFGP+5	25	328018	HTGP	10
306303	HTGP	9	307848	HTGP	9	313524	SPGP+5	17	313593	SFGP+5	25	328067	HTGP	10
306309	HTGP	9	308065	HTGP	9	313525	SFGP+5	25	313594	SFGP+5	25	328075	HTGP	10
306311	HTGP	9	308069	HTGP	9	313526	SFGP+5	25	313595	SFGP+5	25	328083	HTGP	10
306317	HTGP	9	308073	HTGP	9	313527	SFGP+5	25	313596	SFGP+5	25	328158	HTGP	10
306337	HTGP	9	308077	HTGP	9	313528	SFGP+5	25	313597	SFGP+5	25	328166	HTGP	10
306341	HTGP	9	308081	HTGP	9	313529	SFGP+5	25	313598	SFGP+5	25	328174	HTGP	10
306345	HTGP	9	308085	HTGP	9	313530	SFGP+5	25	313599	SPGPX+5	18	328182	HTGP	10
306440	HTGP	9	308184	HTGP	9	313531	SFGP+5	25	313600	SPGPX+5	18	328188	HTGP	10
306444	HTGP	9	308192	HTGP	9	313532	SFGP+5	25	313601	SPGPX+5	18	328190	HTGP	10
306451	HTGP	9	308200	HTGP	9	313533	SFGP+5	25	313602	SPGPX+5	18	328205	HTGP	10
306457	HTGP	9	308275	HTGP	9	313534	SFGP+5	25	313603	SPGPX+5	18	328208	HTGP	10
306465	HTGP	9	308283	HTGP	9	313535	SFGP+5	25	313604	SPGPX+5	18	328240	HTGP	10
306469	HTGP	9	308291	HTGP	9	313536	SFGP+5	25	313605	SPGPX+5	18	328257	HTGP	10
306485	HTGP	9	308424	HTGP	9	313537	SFGP+5	25	313606	SPGPX+5	18	328265	HTGP	10
306622	HTGP	9	308432	HTGP	9	313538	SFGP+5	25	313607	SPGPX+5	18	328273	HTGP	10
306626	HTGP	9	308440	HTGP	9	313539	SFGP+5	25	313608	SPGPX+5	18	328281	HTGP	10
306630	HTGP	9	308457	HTGP	9	313540	SFGP+5	25	313609	SPGPX+5	18	328287	HTGP	10
306634	HTGP	9	308465	HTGP	9	313541	SFGP+5	25	313610	SPGP+5	17	328295	HTGP	10
306642	HTGP	9	308473	HTGP	9	313542	SFGP+5	25	313611	SPGP+5	17	328299	HTGP	10
306648	HTGP	9	308549	HTGP	9	313543	SFGP+5	25	313612	SPGP+5	17	328331	HTGP	10
306741	HTGP	9	308556	HTGP	9	313544	SPGPX+5	18	313613	SPGP+5	17	328349	HTGP	10
306754	HTGP	9	308564	HTGP	9	313545	SPGPX+5	18	313614	SPGP+5	17	328356	HTGP	10
306758	HTGP	9	308572	HTGP	9	313546	SPGPX+5	18	313615	SPGP+5	17	328364	HTGP	10
306762	HTGP	9	308580	HTGP	9	313547	SPGPX+5	18	313616	SPGP+5	17	328372	HTGP	10
306766	HTGP	9	308598	HTGP	9	313548	SPGPX+5	18	313617	SPGP+5	17	328378	HTGP	10
306923	HTGP	9	308671	HTGP	9	313549	SPGPX+5	18	313618	SPGP+5	17	328380	HTGP	10
306929	HTGP	9	308705	HTGP	9	313550	SPGPX+5	18	313619	SPGP+5	17	328386	HTGP	10
306931	HTGP	9	308713	HTGP	9	313551	SPGPX+5	18	313620	SPGP+5	17	328422	HTGP	10
306937	HTGP	9	308788	HTGP	9	313552	SPGPX+5	18	313621	SPGP+5	17	328430	HTGP	10
306945	HTGP	9	308796	HTGP	9	313553	SPGPX+5	18	317516	HTGPL	11	328436	HTGP	10
306949	HTGP	9	308804	HTGP	9	313554	SPGPX+5	18	317532	HTGPL	11	328444	HTGP	10
306964	HTGP	9	308812	HTGP	9	313555	SPGP+5	17	317540	HTGPL	11	328448	HTGP	10
306972	HTGP	9	308820	HTGP	9	313556	SPGP+5	17	317557	HTGPL	11	328497	HTGP	10
306978	HTGP	9	308838	HTGP	9	313557	SPGP+5	17	317573	HTGPL	11	328547	HTGP	10
307042	HTGP	9	313010	HTGPL	11	313558	SPGP+5	17	317607	HTGPL	11	328550	HTGP	10
307046	HTGP	9	313028	HTGPL	11	313559	SPGP+5	17	317631	HTGPL	11	328554	HTGP	10
307053	HTGP	9	313036	HTGPL	11	313560	SPGP+5	17	317664	HTGPL	11	328562	HTGP	10
307059	HTGP	9	313044	HTGPL	11	313561	SPGP+5	17	317722	HTGPL	11	328568	HTGP	10
307061	HTGP	9	313051	HTGPL	11	313562	SPGP+5	17	317755	HTGPL	11	328604	HTGP	10
307067	HTGP	9	313069	HTGPL	11	313563	SPGP+5	17	317789	HTGPL	11	328612	HTGP	10
307160	HTGP	9	313077	HTGPL	11	313564	SPGP+5	17	317904	HTGPL	11	328618	HTGP	10
307178	HTGP	9	313085	HTGPL	11	313565	SPGP+5	17	317995	HTGPL	11	328620	HTGP	10
307186	HTGP	9	313093	HTGPL	11	313566	SPGP+5	17	318027	HTGPL	11	328626	HTGP	10
307194	HTGP	9	313102	HTGPL	11	313567	SPGP+5	17	318779	HTGPL	11	328661	HTGP	10
307202	HTGP	9	313119	HTGPL	11	313568	SPGP+5	17	326004	HTGP	8	328675	HTGP	10
307210	HTGP	9	313500	SPGP+5	17	313569	SPGP+5	17	326012	HTGP	8	328679	HTGP	10
307343	HTGP	9	313501	SPGP+5	17	313570	SPGP+5	17	326087	HTGP	8	328683	HTGP	10
307349	HTGP	9	313502	SPGP+5	17	313571	SPGP+5	17	326095	HTGP	8	328684	HTGP	10
307350	HTGP	9	313503	SPGP+5	17	313572	SPGP+5	17	326160	HTGP	8	328685	HTGP	10
307356	HTGP	9	313504	SPGP+5	17	313573	SPGP+5	17	326178	HTGP	8	328686	HTGP	10
307364	HTGP	9	313505	SPGP+5	17	313574	SPGP+5	17	326240	HTGP	8	328687	HTGP	10
307368	HTGP	9	313506	SPGP+5	17	313575	SPGP+5	17	326244	HTGP	8	328688	HTGP	10
307463	HTGP	9	313507	SPGP+5	17	313576	SPGP+5	17	326251	HTGP	8	328689	HTGP	10
307467	HTGP	9	313508	SPGP+5	17	313577	SPGP+5	17	326285	HTGP	8	328690	HTGP	10
307471	HTGP	9	313509	SPGP+5	17	313578	SPGP+5	17	326293	HTGP	8	328691	HTGP	10

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index



Index

Reference Information

- Machine Taps
- Spiral Point Taps
- Spiral Flute Taps
- Thread Forming Taps
- Pipe Taps
- Dies
- Technical Info
- Sets
- Index

Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number
328693	HTGP	10	330039	HTGP	7	330125	SPGP	14	330195	SFGP	24	341714	HTGP	7
328695	HTGP	10	330040	HTGP	7	330126	SPGP	14	330196	SFGP	24	341730	HTGP	7
328697	HTGP	10	330041	HTGP	8	330128	SPGP	14	330197	SFGP	24	341748	HTGP	7
328698	HTGP	10	330042	HTGP	8	330129	SPGP	14	330198	SFGP	24	341755	HTGP	8
328699	HTGP	10	330043	HTGP	8	330130	SPGP	14	330199	SFGP	24	341771	HTGP	8
328703	HTGP	10	330044	HTGP	8	330131	SPGP	15	330200	SFGP	24	341789	HTGP	8
328704	HTGP	10	330045	HTGP	8	330132	SPGP	15	330201	SFGP	24	341805	HTGP	8
328705	HTGP	10	330046	HTGP	8	330133	SPGP	15	330202	SFGP	24	341813	HTGP	8
328706	HTGP	10	330047	HTGP	8	330134	SPGP	15	330203	SFGP	24	341821	HTGP	8
328707	HTGP	10	330048	HTGP	8	330135	SPGP	15	330204	SFGP	24	341839	HTGP	8
328708	HTGP	10	330049	HTGP	8	330136	SPGP	15	330205	SFGP	24	341912	HTGPL	11
328709	HTGP	10	330051	HTGP	8	330137	SPGP	15	330206	SFGP	24	341938	HTGPL	11
328710	HTGP	10	330052	HTGP	8	330138	SPGP	13	330207	SFGP	24	342514	HTGP	8
328711	HTGP	10	330053	HTGP	8	330139	SPGP	13	330208	SFGP	24	342522	HTGP	8
328716	HTGP	10	330055	HTGP	8	330140	SPGP	13	330209	SFGP	24	342530	HTGP	8
328717	HTGP	10	330057	HTGP	8	330141	SPGP	13	330210	SFGP	24	342555	HTGP	8
328719	HTGP	10	330058	HTGP	9	330142	SPGP	13	330211	SFGP	24	342553	HTGP	8
328720	HTGP	10	330059	HTGP	9	330143	SPGP	14	330212	FTGP	26	342589	HTGP	8
328752	HTGP	10	330060	HTGP	9	330144	SPGP	14	330213	FTGP	26	342597	HTGP	9
328760	HTGP	10	330061	HTGP	9	330145	SPGP	14	330214	FTGP	26	342605	HTGP	9
328778	HTGP	10	330062	HTGP	7	330146	SPGP	14	330215	FTGP	26	342613	HTGP	9
328810	HTGP	10	330063	HTGP	7	330147	SPGP	15	330216	SPGP	14	342621	HTGP	9
328828	HTGP	10	330065	HTGP	9	330148	SPGP	13	330259	HTHM	6	342639	HTGP	9
328836	HTGP	10	330066	HTGP	7	330149	SPGP	13	330260	HTHM	6	342647	HTGP	9
328877	HTGP	10	330067	HTGP	7	330150	SPGP	13	330261	HTHM	6	342654	HTGP	9
328885	HTGP	10	330068	HTGP	7	330151	SPGP	13	330262	HTHM	6	342662	HTGP	9
328893	HTGP	10	330069	HTGP	7	330152	SPGP	13	330263	HTHM	6	342670	HTGP	9
328935	HTGP	10	330070	HTGP	7	330153	SPGP	13	330264	HTHM	6	342688	HTGP	9
328943	HTGP	10	330071	HTGP	10	330154	SPGP	13	330265	HTHM	6	342696	HTGP	9
328950	HTGP	10	330072	HTGP	10	330155	SPGP	13	330267	HTHM	6	342704	HTGP	9
329057	HTGP	10	330073	HTGP	10	330156	SPGP	13	330269	HTHM	6	342712	HTGP	9
329065	HTGP	10	330074	HTGP	10	330157	SPGP	14	330278	HTHM	6	342720	HTGP	9
329073	HTGP	10	330075	HTGP	10	330158	SPGP	14	330279	HTHM	6	342738	HTGP	9
329180	HTGP	10	330076	HTGP	10	330159	SPGP	14	330280	HTHM	6	342746	HTGP	9
330001	HTGP	16	330077	HTGP	10	330160	SPGP	14	330281	HTHM	6	342761	HTGP	9
330004	HTGP	7	330078	HTGP	10	330161	SPGP	14	330283	HTHM	6	343502	HTGP	10
330005	HTGP	7	330079	HTGP	8	330162	SPGP	14	330284	HTHM	6	343503	HTGP	10
330006	HTGP	7	330080	HTGP	8	330163	SPGP	14	330290	HTHM	6	343504	HTGP	10
330007	HTGP	7	330082	HTGP	16, 57	330164	SPGP	14	330291	HTHM	6	343506	HTGP	10
330008	HTGP	7	330083	HTGP	16, 57	330165	SPGP	14	330292	HTHM	6	343508	HTGP	10
330009	HTGP	10	330084	HTGP	16, 57	330166	SPGP	14	330293	HTHM	6	343509	HTGP	10
330010	HTGP	10	330085	SPGP	16, 57	330167	SPGP	14	330294	HTHM	6	343511	HTGP	10
330011	HTGP	10	330086	HTGP	16, 57	330168	SPGP	15	330295	HTHM	6	343512	HTGP	10
330012	HTGP	10	330087	HTGP	16, 57	330169	SPGP	15	330296	HTHM	6	343513	HTGP	10
330013	HTGP	10	330088	HTGP	16, 57	330170	SPGP	15	330298	HTHM	6	343514	HTGP	10
330014	HTGP	10	330100	SPGP	13	330171	SPGP	15	330310	SPS	12	343515	HTGP	10
330015	HTGP	10	330101	SPGP	13	330172	SPGP	15	330311	SPS	12	353768	PTT	27, 57
330016	HTGP	7	330102	SPGP	13	330173	SPGP	15	330312	SPS	12	355802	HTGP	7
330017	HTGP	7	330103	SPGP	13	330174	SPGP	15	330313	SPS	12	355803	HTGP	7
330018	HTGP	7	330104	SPGP	13	330175	SPLS	19	330315	SPS	12	356002	SPGP	13
330019	HTGP	7	330105	SPGP	13	330176	SPLS	19	330316	SPS	12	356023	SPGP	13
330020	HTGP	7	330106	SPGP	13	330177	SPLS	19	330317	SPS	12	356027	SPGP	13
330021	HTGP	7	330107	SPGP	13	330178	SPLS	19	330321	SPS	12	356035	SPGP	13
330022	HTGP	7	330108	SPGP	13	330179	SPLS	19	330333	SPS	12	356061	SPGP	13
330024	HTGP	8	330109	SPGP	14	330180	SPLS	19	330336	SPS	12	356068	SPGP	13
330025	HTGP	8	330110	SPGP	14	330181	SPLS	19	339044	HTGP	7	356084	SPGP	13
330026	HTGP	8	330111	SPGP	14	330182	SPLS	19	339045	HTGP	7	356102	SPGP	13
330027	HTGP	8	330112	SPGP	14	330183	SPLS	19	339046	HTGP	7	356106	SPGP	13
330028	HTGP	10	330113	SPGP	14	330184	SPLS	19	339047	HTGP	7	356142	SPGP	13
330029	HTGP	10	330114	SPGP	14	330185	SPLS	19	339048	HTGP	7	356148	SPGP	13
330030	HTGP	10	330115	SPGP	14	330186	SPLS	19	341573	HTGP	7	356159	SPGP	13
330031	HTGP	10	330116	SPGP	14	330187	SPLS	19	341599	HTGP	7	356183	SPGP	13
330032	HTGP	10	330117	SPGP	14	330188	SPLS	19	341607	HTGP	7	356221	SPGP	13
330033	HTGP	10	330118	SPGP	14	330189	SPLS	19	341623	HTGP	7	356225	SPGP	13
330034	HTGP	10	330119	SPGP	14	330190	SPLS	19	341649	HTGP	7	356262	SPGP	13
330035	HTGP	7	330120	SPGP	14	330191	SPLS	19	341664	HTGP	7	356266	SPGP	13
330036	HTGP	7	330121	SPGP	14	330192	SPLS	19	341672	HTGP	7	356308	SPGP	13
330037	HTGP	7	330122	SPGP	14	330193	SFGP	24	341698	HTGP	7	356320	SPGP	13
330038	HTGP	7	330123	SPGP	14	330194	SFGP	24	341706	HTGP	7	356324	SPGP	13





Reference Information

Index

Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number
356332	SPGP	13	357401	SPGP	14	366132	SFGP	24	385500	PTT	27	400336	6382	32
356338	SPGP	13	357405	SPGP	14	366140	SFGP	24	385501	PTT	27	400344	6382	33
356361	SPGP	13	357413	SPGP	14	366142	SFGP	24	385505	PTT	27	400351	6382	33
356365	SPGP	13	357504	SPGP	14	366150	SFGP	24	385513	PTT	27	400369	6382	33
356403	SPGP	13	357520	SPGP	14	366152	SFGP	24	385534	PTT	27	400377	6382	33
356407	SPGP	13	357526	SPGP	14	366160	SFGP	24	385536	PTT	27	400401	6382	32
356415	SPGP	13	357542	SPGP	14	366162	SFGP	24	385539	PTT	27	400419	6382	32
356421	SPGP	13	357546	SPGP	14	366170	SFGP	24	385547	PTT	27	400427	6382	32
356422	SPGP	13	357561	SPGP	14	366172	SFGP	24	385562	PTT	27	400435	6382	32
356486	SPGP	13	357587	SPGP	14	366180	SFGP	24	385570	PTT	27	400445	6382	33
356498	SPGP	13	357603	SPGP	14	366182	SFGP	24	385604	PTT	27	400450	6382	33
356502	SPGP	13	357609	SPGP	14	367149	SFGP	24	385680	PTT	27	400468	6382	33
356506	SPGP	13	357629	SPGP	14	367156	SFGP	24	385681	PTT	27	400476	6382	33
356510	SPGP	13	357660	SPGP	14	367222	SFGP	24	385682	PTT	27	400484	6382	33
356514	SPGP	13	357682	SPGP	14	367230	SFGP	24	385729	PTTI	28	400492	6382	33
356544	SPGP	13	357686	SPGP	14	367263	SFGP	24	385737	PTTI	28	400500	6382	33
356548	SPGP	13	357702	SPGP	14	367271	SFGP	24	385752	PTTI	28	400518	6382	33
356585	SPGP	13	357765	SPGP	14	367305	SFGP	24	385755	PTTI	28	400526	6382	33
356589	SPGP	13	357769	SPGP	14	367313	SFGP	24	385760	PTTI	28	400534	6382	33
356602	SPGP	13	357785	SPGP	14	367321	SFGP	24	385786	PTTI	28	400609	6382	33
356633	SPGP	13	357819	SPGP	14	367339	SFGP	24	385789	PTTI	28	400617	6382	33
356634	SPGP	13	357823	SPGP	14	367909	SFGP	24	385794	PTTI	28	400625	6382	33
356635	SPGP	13	357827	SPGP	14	367913	SFGP	24	385810	PTTI	28	400633	6382	33
356647	SPGP	13	357831	SPGP	14	367917	SFGP	24	385813	PTTI	28	400641	6382	33
356662	SPGP	13	357835	SPGP	14	367925	SFGP	24	385828	PTTI	28	400658	6382	33
356688	SPGP	13	357864	SPGP	14	367933	SFGP	24	385844	PTTI	28	401003	382	32
356703	SPGP	13	357868	SPGP	14	367941	SFGP	24	385847	PTTI	28	401029	382	32
356704	SPGP	13	357922	SPGP	14	367958	SFGP	24	385851	PTTI	28	401037	382	32
356712	SPGP	13	357926	SPGP	14	367966	SFGP	24	385870	PTTI	28	401045	382	32
356718	SPGP	13	357930	SPGP	14	367974	SFGP	24	385877	PTTI	28	401052	382	32
356742	SPGP	13	357934	SPGP	14	367982	SFGP	24	385885	PTTI	28	401060	382	32
356746	SPGP	13	357942	SPGP	14	367990	SFGP	24	385888	PTTI	28	401078	382	32
356761	SPGP	13	357963	SPGP	14	368006	SFGP	24	386008	ELPTT	29	401102	382	32
356767	SPGP	13	357967	SPGP	14	368014	SFGP	24	386024	ELPTT	29	401110	382	32
356775	SPGP	13	357975	SPGP	14	368063	SFGP	24	386040	ELPTT	29	401128	382	32
356779	SPGP	13	358490	SPGP	14	368071	SFGP	24	386129	ELPTT	29	401129	382	32
356803	SPGP	13	358494	SPGP	14	368089	SFGP	24	386152	ELPTT	29	401129	382	32
356809	SPGP	13	358510	SPGP	14	368097	SFGP	24	386186	ELPTT	29	401168	382	32
356841	SPGP	13	359005	SPGP	13	384524	ELPTT	29	387113	PTS	29	401169	382	32
356845	SPGP	13	359047	SPGP	13	384525	ELPTT	29	387121	PTS	29	401177	382	32
357009	SPGP	14	359088	SPGP	13	384526	ELPTT	29	387139	PTS	29	401201	382	32
357021	SPGP	14	359120	SPGP	13	384527	ELPTT	29	387147	PTS	29	401227	382	32
357025	SPGP	14	360755	SPGP	15	384528	ELPTT	29	387212	PTS	29	401242	382	32
357041	SPGP	14	360771	SPGP	15	384529	ELPTT	29	387220	PTS	29	401243	382	32
357047	SPGP	14	360774	SPGP	15	385307	PTT	27	387238	PTS	29	401244	382	32
357054	SPGP	14	360797	SPGP	15	385323	PTT	27	387246	PTS	29	401409	382	32
357058	SPGP	14	360801	SPGP	15	385328	PTT	27	387253	PTS	29	401433	382	32
357062	SPGP	14	360805	SPGP	15	385329	PTT	27	400013	6382	32	401466	382	32
357066	SPGP	14	360821	SPGP	15	385331	PTT	27	400021	6382	32	401482	382	32
357082	SPGP	14	360835	SPGP	15	385356	PTT	27	400039	6382	32	401490	382	32
357088	SPGP	14	360839	SPGP	15	385357	PTT	27	400047	6382	32	401979	382	32
357101	SPGP	14	360854	SPGP	15	385359	PTT	27	400054	6382	32	401995	382	32
357108	SPGP	14	360862	SPGP	15	385364	PTT	27	400062	6382	32	402019	382	32
357161	SPGP	14	360868	SPGP	15	385380	PTT	27	400070	6382	32	402027	382	32
357165	SPGP	14	360884	SPGP	15	385385	PTT	27	400088	6382	32	402043	382	33
357173	SPGP	14	360888	SPGP	15	385386	PTT	27	400096	6382	32	402050	382	33
357179	SPGP	14	360904	SPGP	15	385398	PTT	27	400104	6382	32	402068	382	33
357249	SPGP	14	360920	SPGP	15	385409	PTT	27	400138	6382	32	402076	382	33
357264	SPGP	14	360926	SPGP	15	385410	PTT	27	400145	6382	32	402077	382	33
357280	SPGP	14	360942	SPGP	15	385413	PTT	27	400178	382	32	402078	382	33
357286	SPGP	14	360946	SPGP	15	385422	PTT	27	400179	6382	32	402209	382	32
357294	SPGP	14	360961	SPGP	15	385443	PTT	27	400187	6382	32	402225	382	32
357298	SPGP	14	360967	SPGP	15	385444	PTT	27	400195	6382	32	402241	382	32
357306	SPGP	14	360995	SPGP	15	385448	PTT	27	400211	6382	32	402258	382	32
357322	SPGP	14	361019	SPGP	15	385448	PTT	27	400229	6382	32	402274	382	33
357328	SPGP	14	361050	SPGP	15	385455	PTT	27	400237	6382	32	402282	382	33
357344	SPGP	14	366110	SFGP	24	385458	PTT	27	400245	6382	32	402290	382	33
357348	SPGP	14	366112	SFGP	24	385471	PTT	27	400302	6382	32	402308	382	33
357363	SPGP	14	366130	SFGP	24	385477	PTT	27	400310	6382	32	402316	382	33
						385489	PTT	27	400328	6382	32	402324	382	33

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

Dies

Technical Info

Sets

Index



Index

Reference Information

Machine Taps
Spiral Point Taps
Spiral Flute Taps
Thread Forming Taps
Pipe Taps
Dies
Technical Info
Sets
Index

Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number	Order Number	Style	Page Number
402332	382	33	403298	377	30	420910	300	39	423062	380	36	423132	1384	36
402340	382	33	403306	377	30	420936	300	39	423063	380	36	423133	1384	36
402357	382	33	403314	377	30	420944	300	39	423064	380	36	423134	1384	36
402365	382	33	403322	377	30	420951	300	39	423065	380	36	423135	1384	36
402370	382	33	403330	377	30	420977	300	39	423067	380	36	423136	1384	36
402377	382	33	403348	377	30	421852	330	39	423068	380	36	423137	1384	36
402407	382	32	403355	377	30	421909	335	40	423069	380	36	423138	1384	36
402423	382	32	403363	377	30	421917	335	40	423070	380	36	423139	1384	36
402449	382	32	403371	377	30	421925	335	40	423071	380	36	423140	1384	36
402456	382	32	403389	377	30	421933	335	40	423072	380	36	423141	1384	36
402472	382	33	403397	377	30	421941	335	40	423073	380	36	423142	1384	36
402480	382	33	403405	377	30	421958	335	40	423074	380	36	423143	1384	36
402498	382	33	403512	377	31, 57	421966	335	40	423075	380	36	423144	1384	36
402506	382	33	403520	377	31, 57	422006	335	40, 58	423076	380	36	423145	1384	36
402514	382	33	403522	377	31, 57	423001	Set	35, 58	423077	380	36	423146	1384	36
402522	382	33	403553	377	31, 57	423002	Set	35, 58	423078	380	36	423147	1384	36
402530	382	33	403595	377	31, 57	423003	Set	35, 58	423079	380	36	423148	1384	36
402548	382	33	404806	377	31	423004	Set	35, 58	423080	380	36	423149	1384	37
402555	382	33	404807	377	31	423005	Set	35, 58	423081	380	36	423150	1384	37
402563	382	33	404808	377	31	423006	Set	35, 58	423082	380	36	423151	1384	37
402597	382	33	404809	377	31	423008	1750	34	423083	380	36	423152	1384	37
402605	382	33	404833	377	31	423009	1750	34	423084	380	36	423153	1384	37
402613	382	33	404858	377	31	423010	1750	34	423085	380	36	423154	1384	37
402621	382	33	404882	377	31	423015	300	39	423086	380	36	423155	1384	37
402625	382	33	404916	377	31	423016	300	39	423087	380	36	423156	1384	37
402627	382	33	404932	377	31	423017	330	39	423088	380	36	423157	1384	37
402630	382	33	404973	377	31	423018	330	39	423089	380	36	423158	1384	37
402746	382	33	405202	383	34	423019	1386	36	423090	380	37	423159	1386 Set	37, 58
402787	382	33	405251	383	34	423020	1386	36	423091	380	37	423160	1386 Set	37, 58
402795	382	33	405269	383	34	423021	1386	36	423092	380	37	423161	1386 Set	37, 58
402803	382	33	405277	383	34	423022	1386	36	423093	380	37	423162	1386 Set	37, 58
402811	382	33	405301	383	34	423023	1386	36	423094	380	37	423163	1386 Set	37, 58
402829	382	33	405319	383	34	423024	1386	36	423095	380	37	423164	1386 Set	37, 58
402837	382	33	405327	383	34	423025	1386	36	423096	380	37	423165	1386 Set	37, 58
402902	382	33	411895	377	30	423026	1386	36	423097	380	37	423166	1381	38
402910	382	33	411896	377	30	423027	1386	36	423098	380	37	423167	1381	38
402936	382	33	411897	377	30	423028	1386	36	423099	380	37	423168	1381	38
402944	382	33	411898	377	30	423029	1386	36	423100	1385	36	423169	1381	38
402951	382	33	411899	377	30	423030	1386	36	423101	1385	36	423171	1382	38
402969	382	33	411900	377	30	423031	1386	36	423102	1385	36	423172	1382	38
402977	382	33	415721	6382	34	423032	1386	36	423103	1385	36	423173	A1	38
402985	382	33	415724	6382	34	423033	1386	36	423104	1385	36	918932	SPGPX	18
402993	382	33	415732	6382	34	423034	1386	36	423105	1385	36	918934	SPGPX	18
403009	382	33	415737	6382	34	423035	1386	36	423106	1385	36	918935	SPGPX	18
403101	377	30	415742	6382	34	423036	1386	36	423107	1385	36	918936	SPGPX	18
403102	377	30	415747	6382	34	423037	1386	36	423108	1385	36	918937	SPGPX	18
403103	377	30	415757	6382	34	423038	1386	36	423109	1385	36	918938	SPGPX	18
403104	377	30	415801	6382	34	423039	1386	36	423110	1385	36	918939	SPGPX	18
403105	377	30	415807	6382	34	423040	1386	36	423111	1385	36	918940	SPGPX	18
403106	377	30	415813	6382	34	423041	1386	36	423112	1385	36	918941	SPGPX	18
403108	377	30	415824	6382	34	423043	1386	36	423113	1385	36			
403116	377	30	415833	6382	34	423044	1386	36	423114	1385	36			
403124	377	30	415880	6382	34	423045	1386	36	423115	1385	36, 37			
403132	377	30	415889	6382	34	423046	1386	36	423116	1385	36, 37			
403140	377	30	415896	6382	34	423047	1386	36	423117	1385	36, 37			
403157	377	30	415901	6382	34	423048	1386	36	423118	1385	36, 37			
403165	377	30	420359	Set	35, 58	423049	1386	36	423119	1385	36, 37			
403173	377	30	420363	Set	35, 58	423050	1386	36	423120	1385	36, 37			
403181	377	30	420365	Set	35, 58	423051	1386	36	423121	1383	36			
403199	377	30	420367	Set	35, 58	423052	1386	36	423122	1383	36			
403207	377	30	420368	Set	35, 58	423053	1386	36	423123	1383	36			
403215	377	30	420555	1750	34	423054	1386	36	423124	1383	36			
403223	377	30	420563	1750	34	423055	1386	36	423125	1383	36			
403231	377	30	420571	1750	34	423056	1386	36	423126	1383	36, 37			
403249	377	30	420803	330	39	423057	1386	36	423127	1383	36, 37			
403256	377	30	420829	330	39	423058	380	36	423128	1384	36			
403264	377	30	420845	330	39	423059	380	36	423129	1384	36			
403272	377	30	420860	330	39	423060	380	36	423130	1384	36			
403280	377	30	420878	330	39	423061	380	36	423131	1384	36			





Call Greenfield Industries

Have a great day!



Call Greenfield Industries

Have a great day!



Decimal Equivalent Chart

DRILL SIZE	DECIMAL INCHES	DRILL SIZE	DECIMAL INCHES	DRILL SIZE	DECIMAL INCHES	DRILL SIZE	DECIMAL INCHES	DRILL SIZE	DECIMAL INCHES	DRILL SIZE	DECIMAL INCHES
0.30mm	.0118	1.40mm	.0551	3.20mm	.1260	7/32	.2188	8.60mm	.3386	37/64	.5781
0.32mm	.0126	1.45mm	.0571	30	.1285	5.60mm	.2205	R	.3390	14.75mm	.5807
80	.0135	1.50mm	.0591	3.30mm	.1299	2	.2210	8.70mm	.3425	15.00mm	.5906
0.35mm	.0138	53	.0595	3.40mm	.1339	5.70mm	.2244	11/32	.3438	19/32	.5938
79	.0145	1.55mm	.0610	29	.1360	1	.2280	8.80mm	.3465	15.25mm	.6004
0.38mm	.0150	1/16	.0625	3.50mm	.1378	5.80mm	.2283	S	.3480	39/64	.6094
1/64	.0156	1.60mm	.0630	28	.1405	5.90mm	.2323	8.90mm	.3504	15.50mm	.6102
0.40mm	.0157	52	.0635	9/64	.1406	A	.2340	9.00mm	.3543	15.75mm	.6201
78	.0160	1.65mm	.0650	3.60mm	.1417	15/64	.2344	T	.3580	5/8	.6250
0.42mm	.0165	1.70mm	.0669	27	.1440	6.00mm	.2362	9.10mm	.3583	16.00mm	.6299
0.45mm	.0177	51	.0670	3.70mm	.1457	B	.2380	23/64	.3594	16.25mm	.6398
77	.0180	1.75mm	.0689	26	.1470	6.10mm	.2402	9.20mm	.3622	41/64	.6406
0.48mm	.0189	50	.0700	25	.1495	C	.2420	9.30mm	.3661	16.50mm	.6496
0.50mm	.0197	1.80mm	.0709	3.80mm	.1496	6.20mm	.2441	U	.3680	21/32	.6562
76	.0200	1.85mm	.0728	24	.1520	D	.2460	9.40mm	.3701	16.75mm	.6594
75	.0210	49	.0730	3.90mm	.1535	6.30mm	.2480	9.50mm	.3740	17.00mm	.6693
0.55mm	.0217	1.90mm	.0748	23	.1540	1/4	.2500	3/8	.3750	43/64	.6719
74	.0225	48	.0760	5/32	.1562	E	.2500	V	.3770	17.25mm	.6791
0.60mm	.0236	1.95mm	.0768	22	.1570	6.40mm	.2520	9.60mm	.3780	11/16	.6875
73	.0240	5/64	.0781	4.00mm	.1575	6.50mm	.2559	9.70mm	.3819	17.50mm	.6890
0.62mm	.0244	47	.0785	21	.1590	F	.2570	9.80mm	.3858	45/64	.7031
72	.0250	2.00mm	.0787	20	.1610	6.60mm	.2598	W	.3860	18.00mm	.7087
0.65mm	.0256	2.05mm	.0807	4.10mm	.1614	G	.2610	9.90mm	.3898	23/32	.7188
71	.0260	46	.0810	4.20mm	.1654	6.70mm	.2638	25/64	.3906	18.50mm	.7283
0.70mm	.0276	45	.0820	19	.1660	17/64	.2656	1.00mm	.3937	47/64	.7344
70	.0280	2.10mm	.0827	4.30mm	.1693	H	.2660	X	.3970	19.00mm	.7480
69	.0292	2.15mm	.0846	18	.1695	6.80mm	.2677	1.20mm	.4016	3/4	.7500
0.75mm	.0295	44	.0860	11/64	.1719	6.90mm	.2717	Y	.4040	49/64	.7656
68	.0310	2.20mm	.0866	17	.1730	I	.2720	13/32	.4062	19.50mm	.7677
1/32	.0312	2.25mm	.0886	4.40mm	.1732	7.00mm	.2756	Z	.4130	25/32	.7812
0.80mm	.0315	43	.0890	16	.1770	J	.2770	10.50mm	.4134	20.00mm	.7874
67	.0320	2.30mm	.0906	4.50mm	.1772	7.10mm	.2795	27/64	.4219	51/64	.7969
66	.0330	2.35mm	.0925	15	.1800	K	.2810	10.80mm	.4252	20.50mm	.8071
0.85mm	.0335	42	.0935	4.60mm	.1811	9/32	.2812	11.00mm	.4331	13/16	.8125
65	.0350	3/32	.0938	14	.1820	7.20mm	.2835	7/16	.4375	21.00mm	.8268
0.90mm	.0354	2.40mm	.0945	4.70mm	.1850	7.30mm	.2874	11.20mm	.4409	53/64	.8281
64	.0360	41	.0960	13	.1850	L	.2900	11.50mm	.4528	27/32	.8438
63	.0370	2.45mm	.0965	3/16	.1875	7.40mm	.2913	29/64	.4531	21.50mm	.8465
0.95mm	.0374	40	.0980	12	.1890	M	.2950	11.80mm	.4646	55/64	.8594
62	.0380	2.50mm	.0984	4.8mm	.1890	7.50mm	.2953	15/32	.4688	22.00mm	.8661
61	.0390	39	.0995	11	.1910	19/64	.2969	12.00mm	.4724	7/8	.8750
1.00mm	.0394	38	.1015	4.90mm	.1929	7.60mm	.2992	12.20mm	.4803	22.50mm	.8858
60	.0400	2.60mm	.1024	10	.1935	N	.3020	31/64	.4844	57/64	.8906
59	.0410	37	.1040	9	.1960	7.70mm	.3031	12.50mm	.4921	23.00mm	.9055
1.05mm	.0413	2.70mm	.1063	5.00mm	.1969	7.80mm	.3071	1/2	.5000	29/32	.9062
58	.0420	36	.1065	8	.1990	7.90mm	.3110	12.80mm	.5039	59/64	.9219
57	.0430	7/64	.1094	5.10mm	.2008	5/16	.3125	13.00mm	.5118	23.50mm	.9252
1.10mm	.0433	35	.1100	7	.2010	8.00mm	.3150	33/64	.5156	15/16	.9375
1.15mm	.0453	2.80mm	.1102	13/64	.2031	O	.3160	13.20mm	.5197	24.00mm	.9449
56	.0465	34	.1110	6	.2040	8.10mm	.3189	17/32	.5312	61/64	.9531
3/64	.0469	33	.1130	5.20mm	.2047	8.20mm	.3228	13.50mm	.5315	24.50mm	.9646
1.20mm	.0472	2.90mm	.1142	5	.2055	P	.3230	13.80mm	.5433	31/32	.9688
1.25mm	.0492	32	.1160	5.30mm	.2087	8.30mm	.3268	35/64	.5469	25.00mm	.9843
1.30mm	.0512	3.00mm	.1181	4	.2090	21/64	.3281	14.00mm	.5512	63/64	.9844
55	.0520	31	.1200	5.40mm	.2126	8.40mm	.3307	14.25mm	.5610	1	1.0000
1.35mm	.0531	3.10mm	.1220	3	.2130	Q	.3320	9/16	.5625		
54	.0550	1/8	.1250	5.50mm	.2165	8.50mm	.3346	14.50mm	.5709		

FRACTIONAL - RED

WIRE GAGE - PURPLE

LETTER - BLUE

METRIC - GREEN



2501 Davis Creek Road, Seneca, SC 29678 U.S.A.

USA

website www.gfii.com
telephone 800.348.2885
fax 800.892.4290
email standard.distributors@gfii.com

Canada

www.gfii.ca
800.348.2885
800.387.6649
canada.distributors@gfii.com

International

telephone 864.653.3904
email international.distributors@gfii.com



GTCAT24