



Spiral Point Taps for Through Holes

Style: **SPGP**

General Purpose
Spiral Point

P **N**



HSS

Bright

TiN

TiCN

Black Oxide

Machine Taps

Spiral Point Taps

Spiral Flute Taps

Thread Forming Taps

Pipe Taps

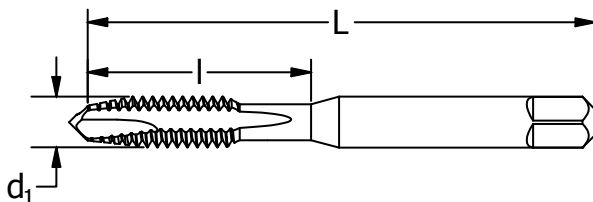
Dies

Technical Info

Sets

Index

Note
Tapping speeds - see page 39-41.
* #0 - #3: 302 blank style.



diameter & pitch	thread form	d ₁ in	# of flutes	H-limit	L in	l in	order number					
							plug				bottoming	
							Bright	Black Oxide	TiN	TiCN	Bright	TiN
*0-80	UNF	.0600	2	H1	1.625	.313	356002	—	—	—	—	—
*0-80	UNF	.0600	2	H2	1.625	.313	356027	330100	360023	330148	356035	—
*1-64	UNC	.0730	2	H2	1.688	.375	356068	—	356061	—	—	—
*1-72	UNF	.0730	2	H1	1.688	.375	356084	—	—	—	—	—
*1-72	UNF	.0730	2	H2	1.688	.375	356102	—	356106	—	—	—
*2-56	UNC	.0860	2	H2	1.750	.438	356142	330101	356148	330149	356159	—
*2-64	UNF	.0860	2	H2	1.750	.438	356183	—	—	—	—	—
*3-48	UNC	.0990	2	H2	1.813	.500	356225	—	356221	—	—	—
*3-56	UNF	.0990	2	H2	1.813	.500	356266	—	356262	—	—	—
4-40	UNC	.1120	2	H1	1.875	.563	356308	—	—	—	—	—
4-40	UNC	.1120	2	H2	1.875	.563	356324	330102	356320	330150	356332	356338
4-48	UNF	.1120	2	H2	1.875	.563	356365	—	356361	—	—	—
5-40	UNC	.1250	2	H2	1.938	.625	356407	330103	356403	330151	356415	—
6-32	UNC	.1380	2	H1	2.000	.688	356421	—	—	—	—	—
6-32	UNC	.1380	2	H2	2.000	.688	356422	330104	356486	—	356498	—
6-32	UNC	.1380	2	H3	2.000	.688	356506	330105	356502	330152	356514	356510
6-32	UNC	.1380	2	H7	2.000	.688	359005	—	—	—	—	—
6-40	UNF	.1380	2	H2	2.000	.688	356548	—	356544	—	—	—
8-32	UNC	.1640	2	H2	2.125	.750	356589	330106	356858	—	—	—
8-32	UNC	.1640	2	H3	2.125	.750	356633	330107	356602	330153	356634	356635
8-32	UNC	.1640	2	H7	2.125	.750	359047	—	330138	—	—	—
8-36	UNF	.1640	2	H2	2.125	.750	356647	—	330139	—	—	—
10-24	UNC	.1900	2	H1	2.375	.875	356662	—	—	—	—	—
10-24	UNC	.1900	2	H2	2.375	.875	356688	—	330140	—	—	—
10-24	UNC	.1900	2	H3	2.375	.875	356704	—	356703	330154	356712	356718
10-24	UNC	.1900	2	H7	2.375	.875	359088	—	330141	—	—	—
10-32	UNF	.1900	2	H2	2.375	.875	356746	—	356742	—	—	—
10-32	UNF	.1900	2	H3	2.375	.875	356761	—	356767	330155	356779	356775
10-32	UNF	.1900	2	H7	2.375	.875	359120	—	330142	—	—	—
12-24	UNC	.2160	2	H3	2.375	.938	356803	330108	356809	330156	—	—
12-28	UNF	.2160	2	H3	2.375	.938	356845	—	356841	—	—	—

continued on next page

**General Purpose
Spiral Point**

Spiral Point Taps for Through Holes

Style: SPGP (continued)



Machine
Taps

Spiral Point
Taps

Spiral Flute
Taps

Thread Forming
Taps

Pipe Taps

Dies

Technical Info

Sets

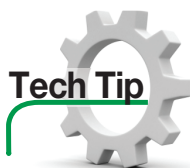
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diameter & pitch	thread form	d ₁ in	# of flutes	H- limit	L in	I in	order number							
							plug				bottoming			
							Bright	Black Oxide	TiN	TiCN	Bright	TiN		
1/4-20	UNC	.2500	2	H1	2.500	1.000	357009	—	330143	—	—	—		
1/4-20	UNC	.2500	2	H2	2.500	1.000	357025	330109	357021	—	—	—		
1/4-20	UNC	.2500	2	H3	2.500	1.000	357041	330110	357047	—	357058	357054		
1/4-20	UNC	.2500	2	H5	2.500	1.000	357066	—	357062	—	—	—		
1/4-20	UNC	.2500	2	H11	2.500	1.000	330111	—	—	—	—	—		
1/4-20	UNC	.2500	3	H3	2.500	1.000	357082	330112	357088	330157	—	—		
1/4-20	UNC	.2500	3	H5	2.500	1.000	357108	—	357101	—	—	—		
1/4-20	UNC	.2500	3	H13	2.500	1.000	358494	—	358490	—	—	—		
1/4-28	UNF	.2500	2	H2	2.500	1.000	330113	—	—	—	—	—		
1/4-28	UNF	.2500	2	H3	2.500	1.000	357165	330114	357161	—	357173	357179		
1/4-28	UNF	.2500	3	H2	2.500	1.000	330115	—	—	330158	—	—		
5/16-18	UNC	.3125	2	H1	2.719	1.125	357249	—	—	—	—	—		
5/16-18	UNC	.3125	2	H2	2.719	1.125	357264	—	330144	—	—	—		
5/16-18	UNC	.3125	2	H3	2.719	1.125	357280	330116	357286	—	357298	357294		
5/16-18	UNC	.3125	2	H5	2.719	1.125	357306	—	330145	—	—	—		
5/16-18	UNC	.3125	3	H3	2.719	1.125	357322	330117	357328	330159	300016	—		
5/16-18	UNC	.3125	3	H5	2.719	1.125	357348	—	357344	—	—	—		
5/16-18	UNC	.3125	3	H13	2.719	1.125	358510	—	—	—	—	—		
5/16-24	UNF	.3125	2	H1	2.719	1.125	357363	—	—	—	—	—		
5/16-24	UNF	.3125	2	H3	2.719	1.125	357405	330118	357401	—	357413	—		
5/16-24	UNC	.3125	3	H4	2.719	1.125	330119	—	—	330160	—	—		
3/8-16	UNC	.3750	3	H2	2.938	1.250	357504	—	330146	—	—	—		
3/8-16	UNC	.3750	3	H3	2.938	1.250	357520	330120	357526	330161	—	—		
3/8-16	UNC	.3750	3	H5	2.938	1.250	357546	—	357542	—	—	—		
3/8-24	UNF	.3750	3	H1	2.938	1.250	357561	—	—	—	—	—		
3/8-24	UNF	.3750	3	H2	2.938	1.250	357587	—	—	—	—	—		
3/8-24	UNF	.3750	3	H3	2.938	1.250	357603	330121	357609	330162	—	—		
3/8-24	UNF	.3750	3	H4	2.938	1.250	357629	—	—	—	—	—		
7/16-14	UNC	.4375	3	H2	3.156	1.438	357660	—	—	—	—	—		
7/16-14	UNC	.4375	3	H3	3.156	1.438	357686	330122	357682	—	—	—		
7/16-14	UNC	.4375	3	H5	3.156	1.438	357702	—	—	—	—	—		
7/16-20	UNF	.4375	3	H3	3.156	1.438	357769	—	357765	330163	—	—		
7/16-20	UNF	.4375	3	H5	3.156	1.438	357785	—	—	—	—	—		
1/2-13	UNC	.5000	3	H2	3.375	1.656	357819	—	—	—	—	—		
1/2-13	UNC	.5000	3	H3	3.375	1.656	357827	330123	357823	330164	—	—		
1/2-13	UNC	.5000	3	H5	3.375	1.656	357835	—	357831	—	—	—		
1/2-20	UNF	.5000	3	H3	3.375	1.656	357868	330125	357864	330165	—	—		
5/8-11	UNC	.6250	3	H3	3.813	1.813	357926	330126	357922	330166	—	—		
5/8-11	UNC	.6250	3	H5	3.813	1.813	357934	—	357930	—	—	—		
5/8-18	UNF	.6250	3	H3	3.813	1.813	357942	330128	—	—	—	—		
3/4-10	UNC	.7500	3	H3	4.250	2.000	357967	330129	357963	330167	—	—		
3/4-10	UNC	.7500	3	H5	4.250	2.000	357975	—	—	—	—	—		
3/4-16	UNF	.7500	3	H3	4.250	2.000	330130	—	—	—	—	—		

metric sizes listed on next page



diameter & pitch	d ₁ mm	number of flutes	D- limit	L in	I in	order number		
						Bright	plug TiN	TiCN
M1.6 x 0.35	1.60	2	D3	1.625	.313	360755	—	—
M1.8 x 0.35	1.80	2	D3	1.688	.375	330131	—	—
M2 x 0.4	2.00	2	D3	1.750	.438	360771	360774	—
M2.2 x 0.45	2.20	2	D3	1.750	.438	330132	—	—
M2.5 x 0.45	2.50	2	D3	1.813	.500	360797	—	—
M3 x 0.5	3.00	2	D3	1.938	.625	360805	360801	330168
M3.5 x 0.6	3.50	2	D4	2.000	.688	360821	—	—
M4 x 0.7	4.00	2	D4	2.125	.750	360839	360835	330169
M4.5 x 0.75	4.50	2	D4	2.375	.875	360854	—	—
M5 x 0.8	5.00	2	D4	2.375	.875	360862	360868	330170
M6 x 1.0	6.00	2	D5	2.500	1.000	360888	360884	330171
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	—	—
M8 x 1.25	8.00	2	D5	2.719	1.125	360920	360926	330172
M10 x 1.25	10.00	3	D5	2.938	1.250	330134	—	—
M10 x 1.5	10.00	3	D6	2.938	1.250	360946	360942	330173
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
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	—	—
M20 x 2.5	20.00	3	D7	4.469	2.000	361050	—	—



The Proper Use of Lubricants in Tapping

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 resharping, 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.



General Purpose
Extended Length (6")

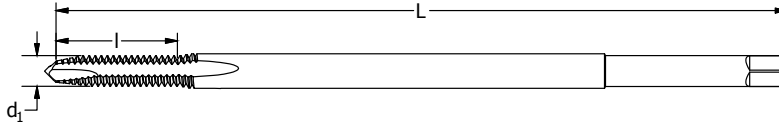
Spiral Point Taps for Through Holes

Style: **SPGPX**



P **N**

Note
Tapping speeds - see page 39-41.



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



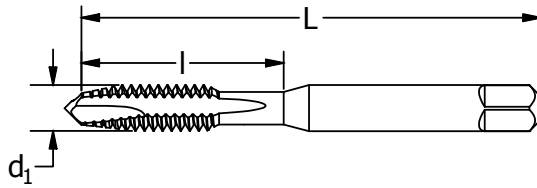
Spiral Point Taps for Through Holes

Style: **SPLS**

General Purpose
Low Shear



Note
Tapping speeds - see page 39-41.



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

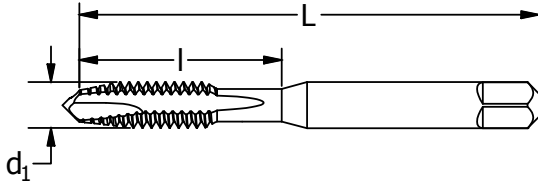
Technical Info

Sets

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Note
Tapping speeds - see page 39-41.



diameter & pitch	thread form	d ₁ in	number of flutes	H-limit	L in	I in	order number plug - TiN
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



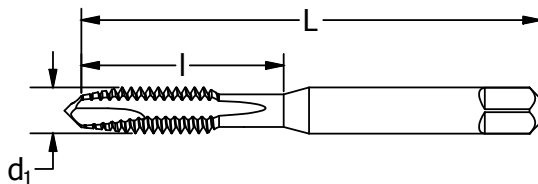
Spiral Point Taps for Through Holes

Style: **SPHD**

Spiral Point Taps
CNC Heavy-Duty



Note
Tapping speeds - see page 39-41.



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
M6 x 1.0	6.00	3	D5	2.500	1.000	Bright 272550