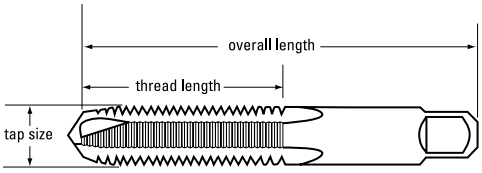
Styles 1011, 1011TN • Spiral Point Taps

FEATURES

USCTI 302 | HSS SUBSTRATE | GENERAL PURPOSE | BRIGHT | THRU HOLES | STEAM OXIDE | GROUND THREAD | TiN | TiCN | PLUG 3-5

APPLICATIONS

ALLOY STEEL | CARBON STEEL | ALUMINUM



Style 1011 Bright

Style 1011TN TiN-Coated

Style 1011 TiCN-Coated

Tapping speeds are listed on page 131.

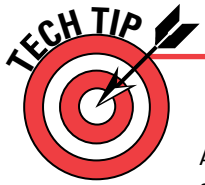
Tap Size and Pitch		Decimal Equivalent	Metric Equivalent	No of Flutes	H-Limit	Overall Length in	Overall Length mm	Thread Length in	Thread Length mm	Order Number Bright	Steam Oxide	TiN	TiCN
0-80	UNC	.0600	1.52	2	H1	1.688	42.86	.375	9.53	C57009			
0-80	UNC	.0600	1.52	2	H2	1.688	42.86	.375	9.53	C57011	C57600	C55290	C55370
1-64	UNC	.0730	1.85	2	H2	1.688	42.86	.375	9.53	C57022			
1-72	UNF	.0730	1.85	2	H1	1.688	42.86	.375	9.53	C57023			
1-72	UNF	.0730	1.85	2	H2	1.688	42.86	.375	9.53	C57024			
2-56	UNC	.0860	2.18	2	H2	1.750	44.45	.438	11.11	C57031	C57602	C55292	C55372
2-64	UNC	.0860	2.18	2	H2	1.750	44.45	.438	11.11	C57033			
3-48	UNC	.0990	2.51	2	H2	1.813	46.04	.500	12.70	C57038		C55294	
3-56	UNF	.0990	2.51	2	H2	1.813	46.04	.500	12.70	C57041			
4-40	UNC	.1120	2.84	2	H1	1.875	47.63	.563	14.29	C57047			
4-40	UNC	.1120	2.84	2	H2	1.875	47.63	.563	14.29	C57048	C57604	C55296	C55374
4-48	UNF	.1120	2.84	2	H2	1.875	47.63	.563	14.29	C57051			
5-40	UNC	.1250	3.18	2	H2	1.938	49.21	.625	15.88	C57062	C57606	C55298	C55376
6-32	UNC	.1380	3.51	2	H1	2.000	50.80	.688	17.46	C57069			
6-32	UNC	.1380	3.51	2	H2	2.000	50.80	.688	17.46	C57070	C57608	C55299	
6-32	UNC	.1380	3.51	2	H3	2.000	50.80	.688	17.46	C57072	C57609	C55300	C55378
6-32	UNC	.1380	3.51	2	H7	2.000	50.80	.688	17.46	C57074			
6-40	UNF	.1380	3.51	2	H2	2.000	50.80	.688	17.46	C57076		C55302	
8-32	UNC	.1640	4.17	2	H2	2.125	53.98	.750	19.05	C57083	C57610	C55303	
8-32	UNC	.1640	4.17	2	H3	2.125	53.98	.750	19.05	C57085	C57611	C55304	C55380
8-32	UNC	.1640	4.17	2	H7	2.125	53.98	.750	19.05	C57087		C55305	
8-36	UNF	.1640	4.17	2	H2	2.125	53.98	.750	19.05	C57089		C55306	
10-24	UNC	.1900	4.83	2	H1	2.375	60.33	.875	22.23	C57094			
10-24	UNC	.1900	4.83	2	H2	2.375	60.33	.875	22.23	C57095		C55307	
10-24	UNC	.1900	4.83	2	H3	2.375	60.33	.875	22.23	C57097		C55308	C55382
10-24	UNC	.1900	4.83	2	H7	2.375	60.33	.875	22.23	C57099		C55309	
10-32	UNF	.1900	4.83	2	H2	2.375	60.33	.875	22.23	C57102		C55311	
10-32	UNF	.1900	4.83	2	H3	2.375	60.33	.875	22.23	C57104		C55310	C55383
10-32	UNF	.1900	4.83	2	H7	2.375	60.33	.875	22.23	C57106		C55346	
12-24	UNC	.2160	5.49	2	H3	2.375	60.33	.938	23.81	C57112	C57616	C55312	C55384
12-28	UNF	.2160	5.49	2	H3	2.375	60.33	.938	23.81	C57114		C55313	

continued on next page

Styles 1011, 1011TN • Spiral Point (continued)

Metric Sizes

Tap Size and Pitch	Decimal Equiv.	Metric Equiv.	Number of Flutes	D-Limit	Overall Length in	Overall Length mm	Thread Length in	Thread Length mm	Order Number Bright	Order Number TiN	Order Number TiCN
M1.6 x 0.35	.0630	1.60	2	D3	1.750	44.45	.438	11.11	C57015		
M1.8 x 0.35	.0709	1.80	2	D3	1.750	44.45	.438	11.11	C57019		
M2 x 0.4	.0787	2.00	2	D3	1.750	44.45	.438	11.11	C57027		
M2.2 x 0.45	.0866	2.20	2	D3	1.750	44.45	.438	11.11	C57036		
M2.5 x 0.45	.0984	2.50	2	D3	1.813	46.04	.500	12.70	C57044		
M3 x 0.5	.1181	3.00	2	D3	1.938	49.21	.625	15.88	C57055	C55360	C55415
M3.5 x 0.6	.1378	3.50	2	D4	2.000	50.80	.688	17.46	C57067		
M4 x 0.7	.1575	4.00	2	D4	2.125	53.98	.750	19.05	C57080	C55361	C55416
M4.5 x 0.75	.1771	4.50	2	D4	2.375	60.33	.875	22.23	C57092		
M5 x 0.8	.1968	5.00	2	D4	2.375	60.33	.875	22.23	C57110		C55417
M6 x 1	.2362	6.00	2	D5	2.500	63.50	1.000	25.40	C57118	C55362	C55418
M7 x 1	.2756	7.00	2	D5	2.719	69.06	1.125	28.58	C57146		
M8 x 1	.3150	8.00	2	D5	2.719	69.06	1.125	28.58	C57168		
M8 x 1.25	.3150	8.00	2	D5	2.719	69.06	1.125	28.58	C57171	C55363	C55419
M10 x 1.25	.3937	10.00	3	D5	2.938	74.61	1.250	31.75	C57187		
M10 x 1.5	.3937	10.00	3	D6	2.938	74.61	1.250	31.75	C57189	C55364	C55420
M12 x 1.25	.4724	12.00	3	D5	3.375	85.73	1.656	42.07	C57199		
M12 x 1.75	.4724	12.00	3	D6	3.375	85.73	1.656	42.07	C57203	C55365	C55421
M14 x 1.5	.5512	14.00	3	D6	3.594	91.28	1.656	42.07	C57226		
M14 x 2	.5512	14.00	3	D7	3.594	91.28	1.656	42.07	C57228		
M16 x 1.5	.6299	16.00	3	D6	3.813	96.84	1.813	46.04	C57234		
M16 x 2	.6299	16.00	3	D7	3.813	96.84	1.813	46.04	C57236		
M20 x 2.5	.7874	20.00	3	D7	3.813	96.84	1.813	46.04	C57253		



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 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 recommindations 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.