

# High Performance Miniature Solid Carbide Drills

## Speed and Feed Recommendations

### List No. 5373 and 5373T

High Performance

	WORKPIECE MATERIAL	HARDNESS	COATING	SURFACE SPEED (SFM)	FEED PER REVOLUTION BY DRILL DIA. (IPR)				
					1/64"	1/32"	1/16"	3/32"	1/8"
ISO P	<b>Free Machining &amp; Low Carbon Steels:</b> 1006, 1008, 1015, 1018, B3: B34 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330	≤ 28 Rc	None	300	.0004	.0008	.0015	.0023	.0030
			ALTiN	360					
	<b>Medium Carbon &amp; High Carbon Steels, Alloy Steels &amp; Easy to Machine Tool Steels:</b> 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1085, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 6150, 8620, 9262, 9840, 52100, O1, O2, O6, S2, W1 to W310	28 - 38 Rc	None	225	.0004	.0008	.0015	.0023	.0030
			ALTiN	270					
	<b>Tool Steels &amp; Die Steels:</b> O7, M1, M2, M3, M4, M7, T1, T2, T4, T5, T8, T15, A2, A3, A6, A7, H10, H11, H12, H13, H19, H21, L3, L6, L7, P2, P20, S1, S5, S7, 52100, A 128, D2, D3, D4, D5, D7	28 - 44 Rc	None	200	.0004	.0008	.0015	.0023	.0030
			ALTiN	240					
ISO H	<b>Hardened Steels:</b> A2 / 52100	35 - 55 Rc	None	50	.0002	.0004	.0007	.0011	.0014
			ALTiN	60					
ISO M	<b>Free Machining Stainless Steels:</b>	≤ 28 Rc	None	175	.0004	.0008	.0015	.0023	.0030
			ALTiN	210					
	<b>Austenitic Stainless Steels:</b> 304 / 316	≤ 28 Rc	None	200	.0004	.0008	.0015	.0023	.0030
			ALTiN	240					
	<b>Ferritic / Martensitic Stainless Steels:</b>	≤ 28 Rc	None	100	.0004	.0008	.0015	.0023	.0030
			ALTiN	120					
<b>Moderately Difficult Stainless Steels:</b> 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	> 28 Rc	None	75	.0004	.0008	.0015	.0023	.0030	
		ALTiN	90						
ISO N	<b>Aluminum &lt;10% Si:</b>		None	450	.0005	.0010	.0020	.0030	.0040
			ALTiN	-					
	<b>Aluminum &gt;10% Si:</b>		None	325	.0005	.0010	.0020	.0030	.0040
			ALTiN	-					
	<b>Plastics:</b>		None	550	.0005	.0010	.0020	.0030	.0040
			ALTiN	-					
<b>Composites / Fiber Reinforced Materials / Circuit Boards:</b>		None	650	.0005	.0010	.0020	.0030	.0040	
		ALTiN	-						
ISO K	<b>Cast Iron - Gray CG:</b> ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	≤ 240 HB	None	400	.0004	.0008	.0015	.0023	.0030
			ALTiN	480					
	<b>Cast Iron - Ductile &amp; Malleable CGI:</b> 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	> 240 HB	None	350	.0004	.0008	.0015	.0023	.0030
			ALTiN	420					
ISO S	<b>Titanium:</b> 6Al-4V	≤ 42 Rc	None	60	.0004	.0008	.0015	.0023	.0030
			ALTiN	70					
	<b>High Temp Alloys:</b> Inconel, Hastelloy, Waspeloy, Nickel Based Alloys, Monel	≤ 42 Rc	None	50	.0002	.0004	.0007	.0011	.0014
			ALTiN	60					

Speeds and Feeds are suggested starting points and may be increased or decreased depending on actual material and machining conditions.

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