

Recommended Cutting Data XD 2XDCE - Inch

Workpiece Material Group	I S O	Hardness	T Y P E	D E P T H	vc - SFM	Drill Diameter				
						3/16	1/4	5/16	3/8	1/2
						f - IPR				
Free Machining & Low Carbon Steels 1006, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330	P	up to 28 Rc		12-25X	345	.0030	.0040	.0080	.0090	.0100
Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels 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	P	28 to 35 Rc		12-25X	265	.0030	.0040	.0080	.0090	.0100
Tool Steels & Die Steels 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, A128, D2, D3, D4, D5, D7	P	28 to 35 Rc		12-25X	265	.0030	.0040	.0080	.0090	.0100
Hardened Steels	H	35-45 Rc		12-25X	115	.0006	.0009	.0020	.0024	.0030
Hardened Steels		45-55 Rc			80					
Stainless Steel - Easy to Machine 430F, 301, 303, 410, 416 Annealed, 420F, 430	M	up to 28 Rc		12-25X	300	.0030	.0040	.0080	.0090	.0100
Stainless Steel - Moderately Difficult 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	up to 28 Rc		12-25X	180	.0030	.0040	.0080	.0090	.0100
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	M	over 28 Rc		12-25X	130	.0020	.0030	.0060	.0080	.0100
High Temp Alloys Nimonic, Inconel, Monel, Hastelloy	S	up to 42 Rc		12-25X	65-80	.0009	.0014	.0025	.0030	.0033
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al	S	up to 42 Rc		12-25X	150	.0016	.0024	.0050	.0060	.0060
Cast Iron - Gray CG, ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	K	up to 240 HB		12-25X	400	.0030	.0050	.0080	.0090	.0100
Cast Iron - Ductile & Malleable CGI 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB		12-25X	265	.0030	.0050	.0080	.0090	.0100
Non-Ferrous - Al < 14% Si	N		12-25X	500	.0043	.0070	.0110	.0138	.0149	
Non-Ferrous - Al > 14% Si	N		12-25X	350	.0043	.0070	.0110	.0138	.0149	
Non-Ferrous - Brass	N		12-25X	400	.0030	.0040	.0110	.0130	.0140	
Non-Ferrous - Cu/Cu Alloys/Magnesium	N		12-25X	300	.0030	.0040	.0110	.0130	.0140	



ISO 9001:2008 Certified

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

For product information, call your local distributor.

2XDCE
Twister XD[®]

Technical Information

Recommended Cutting Data XD 2XDCE - Metric

Workpiece Material Group	I S O	Hardness	T Y P E	D E P T H	vc - m/min	Drill Diameter (mm)						
						5	6	7	8	9	10	12
						f - mm/Rev						
Free Machining & Low Carbon Steels 1006, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330	P	up to 28 Rc		12-25X	105	.088	.106	.127	.193	.215	.238	.254
Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels 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	P	28 to 35 Rc		12-25X	80	.088	.106	.127	.193	.215	.238	.254
Tool Steels & Die Steels 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, A128, D2, D3, D4, D5, D7	P	28 to 35 Rc		12-25X	80	.088	.106	.127	.193	.215	.238	.254
Hardened Steels	H	35-45 Rc		12-25X	35	.020	.022	.027	.046	.053	.060	.066
Hardened Steels		45-55 Rc			25							
Stainless Steel - Easy to Machine 430F, 301, 303, 410, 416 Annealed, 420F, 430	M	up to 28 Rc		12-25X	90	.090	.105	.127	.193	.215	.238	.254
Stainless Steel - Moderately Difficult 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	up to 28 Rc		12-25X	55	.090	.105	.127	.193	.215	.238	.254
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	M	over 28 Rc		12-25X	40	.090	.105	.127	.193	.215	.238	.254
High Temp Alloys Nimonic, Inconel, Monel, Hastelloy	S	up to 42 Rc		12-25X	20-25	.030	.035	.048	.051	.071	.078	.085
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al	S	up to 42 Rc		12-25X	45	.050	.060	.071	.098	.127	.140	.152
Cast Iron - Gray CG, ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	K	up to 240 HB		12-25X	120	.100	.120	.140	.200	.215	.240	.254
Cast Iron - Ductile & Malleable CGI 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB		12-25X	80	.100	.120	.140	.200	.215	.240	.254
Non-Ferrous - Al < 14% Si	N		12-25X	150	.140	.170	.195	.280	.314	.350	.378	
Non-Ferrous - Al > 14% Si	N			105	.140	.170	.195	.280	.314	.350	.378	
Non-Ferrous - Brass	N			120	.088	.106	.127	.279	.314	.350	.378	
Non-Ferrous - Cu/Cu Alloys/Magnesium	N			90	.088	.106	.127	.279	.314	.350	.378	

Safety Note

Always wear the appropriate personal protective equipment such as safety glasses and protective clothing when using solid carbide or HSS cutting tools. Machines should be fully guarded. Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.