

Twister® Spot Drill

200S Series Recommended Cutting Data - Inch 3xD, Solid Drilling

Workpiece Material Group	I S O	Hardness	D E P T H	vc - SFM	Drill Diameter (Inch)				
					1/8	1/4	3/8	1/2	5/8
					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	3x	330	.0015	.0030	.0040	.0050	.0060
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 38 Rc	3x	265	.0015	.0030	.0040	.0050	.0060
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 44 Rc	3x	230	.0015	.0030	.0040	.0050	.0060
Hardened Steel	H	45 to 65 Rc	3x	50	.0005	.0005	.0010	.0010	.0010
Stainless Steel - Moderately Difficult 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	up to 28 Rc	3x	150	.0015	.0030	.0040	.0050	.0060
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	M	up to 28 Rc	3x	100	.0010	.0020	.0025	.0030	.0040
High Temp Alloys Nimonic, Inconel, Monel, Hastelloy	S	up to 42 Rc	3x	70	.0010	.0020	.0025	.0030	.0040
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al	S		3x	180	.0010	.0020	.0025	.0030	.0040
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	3x	365	.0015	.0030	.0040	.0050	.0060
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	3x	265	.0015	.0030	.0040	.0050	.0060
Plastics Kevlar/Graphite	N		3x	300	.0015	.0030	.0040	.0050	.0060

200S Series Recommended Cutting Data - Metric 3xD, Solid Drilling

Workpiece Material Group	I S O	Hardness	D E P T H	vc - m/ min	Drill Diameter (mm)					
					3	6	8	10	12	16
					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	3x	100	.0380	.0760	.1020	.1270	.1520	.1520
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 38 Rc	3x	80	.0380	.0760	.1020	.1270	.1520	.1520
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 44 Rc	3x	45	.0380	.0760	.1020	.1270	.1520	.1520
Hardened Steel	H	45 to 65 Rc	3x	15	.0127	.0127	.0254	.0254	.0254	.0381
Stainless Steel - Moderately Difficult 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	up to 28 Rc	3x	45	.0380	.0760	.1020	.1270	.1520	.1520
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	M	up to 28 Rc	3x	30	.0250	.0510	.0640	.0760	.1020	.1270
High Temp Alloys Nimonic, Inconel, Monel, Hastelloy	S	up to 42 Rc	3x	20	.0250	.0510	.0640	.0760	.1020	.1270
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al	S		3x	55	.0250	.0510	.0640	.0760	.1020	.1270
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	3x	110	.0380	.0760	.1020	.1270	.1520	.1520
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	3x	80	.0380	.0760	.1020	.1270	.1520	.1520
Plastics Kevlar/Graphite	N		3x	90	.0380	.0760	.1020	.1270	.1520	.1520

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