



Recommended Speeds & Feeds for Spot Drills

		Starting SFM	<i>Feed rate, IPR (Inch per Revolution)</i>							
Material	Hardness R/C	Starting SFM								
Low Carbon Steel 1006, 1008, 1018, 1020, 1022, 1025, 1117, 1140, 1215, 1330	Up to 30	250	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0025	.004	.005	.006	.007	.008	.010	.012
Medium Carbon and High Carbon, Steels 1030, 1040, 1050, 1060, 1085, 1095, 1541, 1551, 9255, 3135, 3415, 4130, 4140, 4150, 4320, 4520, 5015, 5120, 5140, 8620	30-40 RC	200	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.003	.004	.005	.006	.007	.009	.011
Tool Steels T1, T2, T15, A2, A7, H13, P20, S7, D2	30-44 RC	150	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0015	.0025	.003	.004	.0045	.005	.006	.008
Hardened Steels Hardened Carbon Steels and Tool steels	42-54 RC	75	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.001	.002	.0025	.003	.004	.005	.006	.007
Stainless Steel 430F, 301, 303, 410, 416, 420F, 430, 430F	Up to 30 RC	125	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0025	.004	.005	.006	.007	.008	.010	.012
Stainless Steel 301, 302, 303, 304, 305, 420, 15-5PH, 17-4PH, 17-7PH	Up to 30 RC	100	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.003	.004	.005	.006	.007	.009	.010
Stainless Steel 302B, 304B, 309, 310, 316, 316B, 316L, 317, 317L, 321, Nitronic	Over 30 RC	85	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.003	.004	.005	.006	.007	.009	.010
High Temp alloys Inconel, Monel, Hastelloy	Up to 42 RC	50	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.001	.002	.003	.004	.0045	.005	.0065	.008
Titanium	Up to 42 RC	65	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.003	.0035	.0045	.005	.006	.0075	.009
Gray Cast iron ASTM A48, Class 20,25,30,35, SAE J431C, Grades G1800,G3000,G3500, GG10,15,20,25,30,35,40	————	325	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0025	.004	.005	.0055	.0065	.008	.010	.0125
Ductile Cast Iron 60-40-18, 65-45-12, D40148, D4512, 32510, 35108, M3210, M4504, M5503, 2502, 300, 350, 400, 450	————	250	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.0035	.004	.005	.006	.007	.009	.011
Aluminum 2024, 6061, 7075, 1050, 6351, 5005, 2017, 7075	Up to 3% Si	750	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.005	.008	.009	.011	.012	.016	.020	.025
Cast Aluminum High Silicon A380, Castings	Over 3% Si	500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.004	.006	.008	.010	.011	.013	.016	.020
Magnesium	————	600	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.003	.005	.006	.007	.008	.009	.011	.014
Non Ferrous Copper, Brass, Bronze	Up to 30 RC	450	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.003	.005	.006	.007	.008	.010	.012	.016