



General Purpose Carbide Drills

Material Guide		HRC	SFM		FEED PER TOOTH				
			25° Helix	15° Helix Straight flute	1/16" - 1/8"	1/8" - 1/4"	1/4" - 3/8"	3/8" - 1/2"	1/2" - 5/8"
COBALT BASE ALLOYS	Stellite, HS - 21, Haynes 25/188, X - 40, L - 605	under 32 over 32	100 - 150 80 - 110	100 - 150 80 - 110	.0004 - .0010 .0004 - .0010	.0008 - .0020 .0005 - .0010	.0015 - .0025 .0010 - .0015	.0020 - .0040 .0010 - .0020	.0025 - .0050 .0015 - .0030
NICKEL BASE ALLOYS	Inconel - 625/718, Waspalloy, Rene, Hastelloy	under 32 over 32	100 - 150 90 - 125	125 - 175 90 - 125	.0005 - .0015 .0004 - .0010	.0010 - .0015 .0008 - .0015	.0015 - .0025 .0010 - .0015	.0020 - .0040 .0015 - .0030	.0025 - .0050 .0020 - .0040
IRON BASE ALLOYS	Incoloy 800 - 802, Multimet N - 155, Timkin 16 - 25 - 6, Carpeneter 22 - b3	under 32 over 32	100 - 150 90 - 125	125 - 175 90 - 125	.0010 - .0015 .0008 - .0015	.0010 - .0020 .0010 - .0020	.0015 - .0035 .0015 - .0025	.0020 - .0020 .0020 - .0040	.0030 - .0060 .0025 - .0050
MONEL	Monel - 65% Nickel		100 - 150	100 - 150	.0004 - .0010	.0008 - .0015	.0010 - .0015	.0015 - .0030	.0020 - .0040
TITANIUM ALLOYS	Commercially Pure, 6Al - 4V, Astm 1/2/3, 6Al - 25N - 4Zr - 2Mo - Si		150 - 200	150 - 200	.0008 - .0015	.0010 - .0020	.0015 - .0030	.0020 - .0040	.0025 - .0050
STAINLESS STEEL (PRECIPITATION)	13/8, 15/5, 17 - 4	under 32 over 32	125 - 175 80 - 125	150 - 200 100 - 150	.0005 - .0015 .0004 - .0010	.0010 - .0020 .0008 - .0015	.0015 - .0035 .0010 - .0015	.0020 - .0040 .0015 - .0030	.0025 - .0050 .0020 - .0040
STAINLESS STEEL (AUSTENITIC)	200 Series, 302, 303, 304, 304L, 316, 316L	under 32 over 32	100 - 175 100 - 125	150 - 200 125 - 150	.0005 - .0015 .0004 - .0010	.0010 - .0020 .0008 - .0015	.0015 - .0035 .0010 - .0015	.0020 - .0040 .0015 - .0030	.0025 - .0050 .0020 - .0040
STAINLESS STEEL (MARTENSITIC)	403, 410, 416, 440	under 32 over 32	100 - 150 80 - 125	125 - 175 100 - 140	.0005 - .0015 .0004 - .0010	.0010 - .0020 .0008 - .0015	.0015 - .0035 .0010 - .0015	.0020 - .0040 .0015 - .0030	.0025 - .0050 .0020 - .0040
HIGH STRENGTH TOOL STEELS	4140, 4340, 6150, 5210, A2, D2 P20, H11, H13, S2, O1	under 32 over 32	100 - 175 80 - 130	125 - 175 80 - 130	.0005 - .0015 .0004 - .0010	.0010 - .0020 .0010 - .0020	.0015 - .0025 .0010 - .0020	.0015 - .0030 .0015 - .0030	.0020 - .0040 .0020 - .0040
MEDIUM ALLOY STEELS	200, 250, 300	under 32 over 32	125 - 175 100 - 150	125 - 175 100 - 150	.0010 - .0015 .0005 - .0010	.0015 - .0025 .0010 - .0020	.0020 - .0030 .0010 - .0025	.0020 - .0040 .0015 - .0030	.0025 - .0050 .0020 - .0040
CARBON STEELS	1000's, 1100's, 1300's	under 32 over 32	125 - 175 100 - 125	150 - 200 100 - 175	.0010 - .0015 .0005 - .0010	.0015 - .0025 .0010 - .0020	.0020 - .0030 .0010 - .0025	.0020 - .0040 .0015 - .0035	.0025 - .0050 .0020 - .0040
DUCTILE	Ductile Cast Irons		125 - 200	150 - 250	.0010 - .0020	.0010 - .0030	.0015 - .0035	.0025 - .0040	.0030 - .0050
CAST IRONS	Gray Cast Irons		100 - 200	150 - 250	.0010 - .0020	.0010 - .0030	.0015 - .0035	.0025 - .0040	.0030 - .0050
ALUMINUM	2014, 2024, 6061 - (T1 - T6), 7075, Die Cast, Extruded		150 - 250		.0010 - .0020	.0015 - .0040	.0020 - .0050	.0030 - .0060	.0035 - .0070
MAGNESIUM			200 - 300		.0010 - .0020	.0010 - .0030	.0015 - .0035	.0025 - .0040	.0030 - .0050
COPPER, COPPER ALLOYS			150 - 250		.0010 - .0020	.0010 - .0030	.0015 - .0035	.0025 - .0040	.0030 - .0050
BRASS, BRONZE	Brass, Alum/Bronze, Low Silicon Bronze		150 - 300 125 - 200		.0010 - .0020 .0008 - .0015	.0010 - .0030 .0010 - .0020	.0015 - .0035 .0015 - .0030	.0025 - .0040 .0020 - .0040	.0030 - .0050 .0025 - .0050