

RECOMMENDED CUTTING CONDITIONS

ISO	Material	Condition	Tensile Strength Rm (N/mm ²)	Hardness (HB)	Matl No.	Cutting Speed Vc (SFM)	Feed vs Drill Diameter									
							D= 26-28.9mm 1.024-1.138" SPGX06	D= 29-32.9mm 1.142-1.295" SPGX07	D= 33-36.9mm 1.299-1.453" SPGX09	D= 37-43.9mm 1.457-1.728" SPGX11	D= 44-45.9mm 1.732-1.807" SPGX11					
							IPR (inches/rev)									
P	Non-alloy steel <0.25% C & cast steel, >= 0.25% C free cutting <0.55% C steel >= 0.55% C	Annealed	420	125	1	390-650	.008-.014	.010-.014	.008-.016	.010-.016	.011-.018					
		Annealed	650	190	2	390-650										
		Quenched & Tempered	850	250	3	425-625										
		Annealed	750	220	4	425-625										
		Quenched & Tempered	1000	300	5	425-625										
	Low alloy steel & cast steel (less than 5% alloying elements)	Annealed	600	200	6	325-650	.008-.013	.010-.013	.010-.014	.010-.014	.010-.016					
		Quenched & Tempered	930	275	7	325-650										
			1000	300	8	325-650										
	High alloy steel, cast steel, & tool steel	Annealed	680	200	10	325-525	.008-.013	.010-.013	.010-.014	.010-.014	.010-.016					
		Quenched & Tempered	1100	325	11	325-525										
M	Stainless steel & cast stainless steel	Ferritic/martensitic	680	200	12	260-460	.005-.010	.006-.010	.006-.010	.007-.011	.007-.012					
		Martensitic	820	240	13	260-460										
		Austenitic	600	180	14	260-460										
K	GreyCast Iron (GG)	Ferritic		160	15	325-825	.010-.018	.010-.018	.012-.020	.012-.020	.014-.022					
		Pearlitic		250	16	325-825										
	Cast Iron Nodular (GGG)	Ferritic		180	17	325-825										
		Pearlitic		260	18	325-825										
	Malleable Cast Iron	Ferritic		130	19	325-825										
Pearlitic		230	20	325-825												
N	Aluminum - wrought alloy	Not cureable		60	21	525-850	.012-.020	.012-.020	.014-.022	.014-.022	.016-.024					
		Cured		100	22	525-850										
	Aluminum - cast, alloyed	Not cureable		75	23	525-850										
		Cured		90	24	525-850										
		High temperature		130	25	525-850										
	Copper alloys	Free cutting		110	26	525-850										
		Brass		90	27	525-850										
		Electrolitic copper		100	28	525-850										
	Non-metallic	Duro & fiber plastics			29	-						-	-	-	-	-
		Hard rubber			30	-						-	-	-	-	-
S	High temp alloys Fe based Ni or Co based	Annealed		200	31	100-200	.004-.006	.004-.007	.006-.008	.006-.009	.006-.009					
		Cured		280	32	100-265										
		Annealed		250	33	100-265										
		Cured		350	34	100-265										
		Cast		320	35	100-265										
	Titanium, Ti alloys		Rm 400		36	100-265										
		Alpha+beta alloys cured	Rm 1050		37	100-265										
H	Hardened steel	Hardened		55 HRC	38	65-165	.004-.006	.005-.007	.006-.008	.006-.008	.006-.009					
		Hardened		60 HRC	39	65-165										
	Chilled cast iron	Cast		400	40	-						-	-	-	-	
	Cast iron nodular	Hardened		55 HRC	41	-						-	-	-	-	

* Feed Rates are based on Two Effective - DO NOT DOUBLE.