Operating Guidelines • Series LPF Tips (Flat Bottom)

ISO	Material		Condition	Tensile Strength RM (N/mm^2)	Hardness HB	Matl. Group No.	Cutting Speed Vc (SFM)	Feed vs. Drill Diameter – IPR (inches/rev)*		
								Ø20–29.9 mm (.7874–1.1772")	Ø30–34.9 mm (1.1811–1.3740")	Ø35–41.9 mm (1.3800–1.6496")
P	Non-alloy steel and cast steel, free cutting steel	<0.25%C	Annealed	420	125	1	260–460	.012–.020	.012–.020	.014–.022
		≥0.25%C	Annealed	650	190	2	260–430			
		<0.55%C	Quenched and tempered	850	250	3	260–400			
		≥0.55%C	Annealed	750	220	4	230–360			
			Quenched and tempered	1000	300	5	165–300			
	Low alloy steel and cast steel (less than 5% alloying elements)		Annealed	600	200	6	260–400	.010–.018	.010–.018	.012–.020
			Quenched and tempered	930	275	7	230–360			
				1000	300	8	165–300			
				1200	350	9	135–230			
	High alloy steel, cast steel, and tool steel		Annealed	680	200	10	165–300	.010–.014	.010–.014	.012–.016
			Quenched and tempered	1100	325	11	130–265			
K	Grey cast iron (GG)		Ferritic	–	160	15	300–600	.014–.022	.014–.022	.016–.024
			Pearlitic	–	250	16	265–460			
	Cast iron nodular (GGG)		Ferritic	–	180	17	300–600			
			Pearlitic	–	260	18	265–460			
	Malleable cast iron		Ferritic	–	130	19	300–525			
			Pearlitic	–	230	20	265–460			

*Feed rates are based on two effective - DO NOT DOUBLE