

**Machining recommendations for ISCARDEEPDRILL tools (IC948 grade inserts)**

Material Groups					Recommended Machining Conditions						
ISO	Material	Condition	Hardness (HB)	Material Group No.	Cutting speed $V_c$ (m/min)	Feed $f$ (mm/rev) vs. drill dia. (mm)					
						38.00-39.99	40.00-51.99	52.00-63.99	64.00-84.99	85.00-293.00	
P	non-alloy steel and cast steel, free cutting steel	< 0.25% C	annealed	125	1	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
		$\geq$ 0.25% C	annealed	190	2	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
		< 0.55% C	quenched and tempered	250	3	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
		$\geq$ 0.55% C	annealed	220	4	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
			quenched and tempered	300	5	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
	low alloy steel and cast steel (less than 5 % of alloying elements)	annealed	200	6	60-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
		quenched and tempered	275	7	60-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
			300	8	50-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
			350	9	50-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
	high alloyed steel, cast steel, and tool steel	annealed	200	10	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
		quenched and tempered	325	11	60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
	stainless steel and cast steel	ferritic / martensitic	200	12	60-110	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
		martensitic	240	13	60-110	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	
M	stainless steel and cast steel	austenitic, duplex	180	14	60-110	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3	