

Machining recommendations for FINEBEAM tools (IC948 grade inserts)

Material Groups					Recommended Machining Conditions				
ISO	Workpiece materials			Hardness (HB)	Material Group No.	Chipbreaker	Cutting speed V _c (m/min)	Feed f (mm/rev) vs. drill dia. (mm)	
								25.00 - 43.00	43.01-89.00
P	non-alloy steel and cast steel, free cutting steel	< 0.25% C	annealed	125	1	HF	70 - 130	0.11 - 0.41	0.14-0.45
						G	70-130	0.10-0.30	0.12-0.35
		≥ 0.25% C	annealed	190	2	HF	70-130	0.11-0.41	0.14-0.45
						G	70-130	0.10-0.30	0.12-0.35
		< 0.55 %C	quenched and tempered	250	3	HF	70-130	0.11-0.41	0.14-0.45
						G	70-130	0.10-0.30	0.12-0.35
		≥ 0.55% C	annealed	220	4	HF	70-130	0.11-0.41	0.14-0.45
						G	70-130	0.10-0.30	0.12-0.35
	quenched and tempered	300	5	HF	70-130	0.11-0.41	0.14-0.45		
				G	70-130	0.10-0.30	0.12-0.35		
	low alloy steel and cast steel (less than 5 % of alloying elements)	annealed	200	6	HF	70-120	0.11-0.41	0.20-0.45	
					G	70-120	0.10-0.30	0.12-0.35	
		quenched and tempered	275	7	HF	55-110	0.11-0.41	0.20-0.45	
					G	60-120	0.10-0.30	0.12-0.35	
300					8	HF	55-110	0.11-0.41	0.20-0.45
						G	60-120	0.10-0.30	0.12-0.35
350	9	HF	55-110	0.11-0.41	0.20-0.45				
		G	60-120	0.10-0.30	0.12-0.35				
high alloyed steel, cast steel, and tool steel	annealed	200	10	HF	55-110	0.11-0.38	0.20-0.40		
				G	70-130	0.10-0.30	0.12-0.35		
	quenched and tempered	325	11	HF	55-110	0.11-0.38	0.20-0.40		
				G	70-130	0.10-0.30	0.12-0.35		
stainless steel and cast steel	ferritic / martensitic	200	12	HF	40-110	0.11-0.41	0.20-0.45		
				G	70-130	0.10-0.30	0.12-0.35		
	martensitic	240	13	HF	40-110	0.11-0.41	0.20-0.45		
				G	70-130	0.10-0.30	0.12-0.35		
M	stainless steel and cast steel	austenitic, duplex	14	HF	40-110	0.11-0.41	0.20-0.45		
				G	70-130	0.10-0.30	0.12-0.35		