

Table 1 - Average Cutting Data When Milling NEOBARREL Tools and Inserts

ISO	Material	Material Group No.	Hardness, HB	Typical representative		Carbide grade	Cutting speed v_{c0} (mm/min)	Feed fz (mm/t)			Depth of cut (mm)			Coolant
				AISI/SAE/ASTM	DIN W.-Nr.			HCT Tapper	HLB Barrel	HLB Lens	ae HCT Tapper	ae HLB Barrel	ap HLB Lens	
P	Non-alloy steel and cast steel, free cutting steel	1-5	130-180	1020	1.0402	IC908	500-600	0.1-0.2	0.12-0.25	0.15-0.3	0.1	0.1	0.1	Dry
	Low alloy and cast steel (less than 5% of alloying elements)	6-8	260-300	4340	1.6582	IC908	500-600	0.1-0.2	0.12-0.25	0.15-0.3	0.1	0.1	0.1	Dry
		9	35-42** HRC	3135	1.5710	IC908	400-500	0.1-0.2	0.12-0.25	0.15-0.3	0.1	0.1	0.1	Dry
	High alloyed steel, cast steel and tool steel	10-11	200-220	H13	1.2344	IC908	500-600	0.1-0.2	0.12-0.25	0.15-0.3	0.1	0.1	0.1	Dry
	Stainless steel and cast steel	12-13	200	420	1.4021	IC908	500-600	0.1-0.2	0.12-0.25	0.15-0.3	0.1	0.1	0.1	Dry
M	Stainless steel and cast steel	14	200	304L	1.4306	IC908	400-500	0.1-0.2	0.12-0.32	0.15-0.3	0.1	0.1	0.1	Wet
K	Gray cast iron (GG)	15-16	250	Class 40	0.6025 (GG25)	IC908	600-700	0.15-0.3	0.2-0.35	0.25-0.4	0.125	0.125	0.125	Dry
	Nodular cast iron (GGG)	17-18	200	Class 65-45-12	0.7050 (GGG50)	IC908	500-600	0.15-0.3	0.2-0.35	0.25-0.4	0.125	0.125	0.125	
S	High temperature alloys and titanium	33-35	340	Inconel 718	2.4668	IC908	25-35	0.05-0.1	0.07-0.13	0.1-0.2	0.1	0.1	0.1	Wet
		36-37	35-40 HRC	AMS R56400	3.7165 (Ti6Al4V ELI)		40-60	0.06-0.1	0.07-0.13	0.1-0.2	0.1	0.1	0.1	
H	Hardened steel	38	45-49 HRC	HARDOX 450 plate		IC908	200-300	0.05-0.1	0.1-0.15	0.15-0.2	0.075	0.075	0.075	Dry
			58-62 HRC	D2	1.2379		180-250	0.05-0.1	0.1-0.15	0.15-0.2	0.05	0.05	0.05	

* ISCAR material group in accordance with VDI 3323 standard

** Quenched and tempered

For machining in unstable conditions, the recommended cutting data should be reduced by 20-30%

The cutting speed v_c depends on the tool overhang H , and can be calculated as following.

$v_c = v_{c0} \cdot k_H$

where:

v_{c0} - cutting speed as recommended in table 1

k_H - overhang factor in Table 2

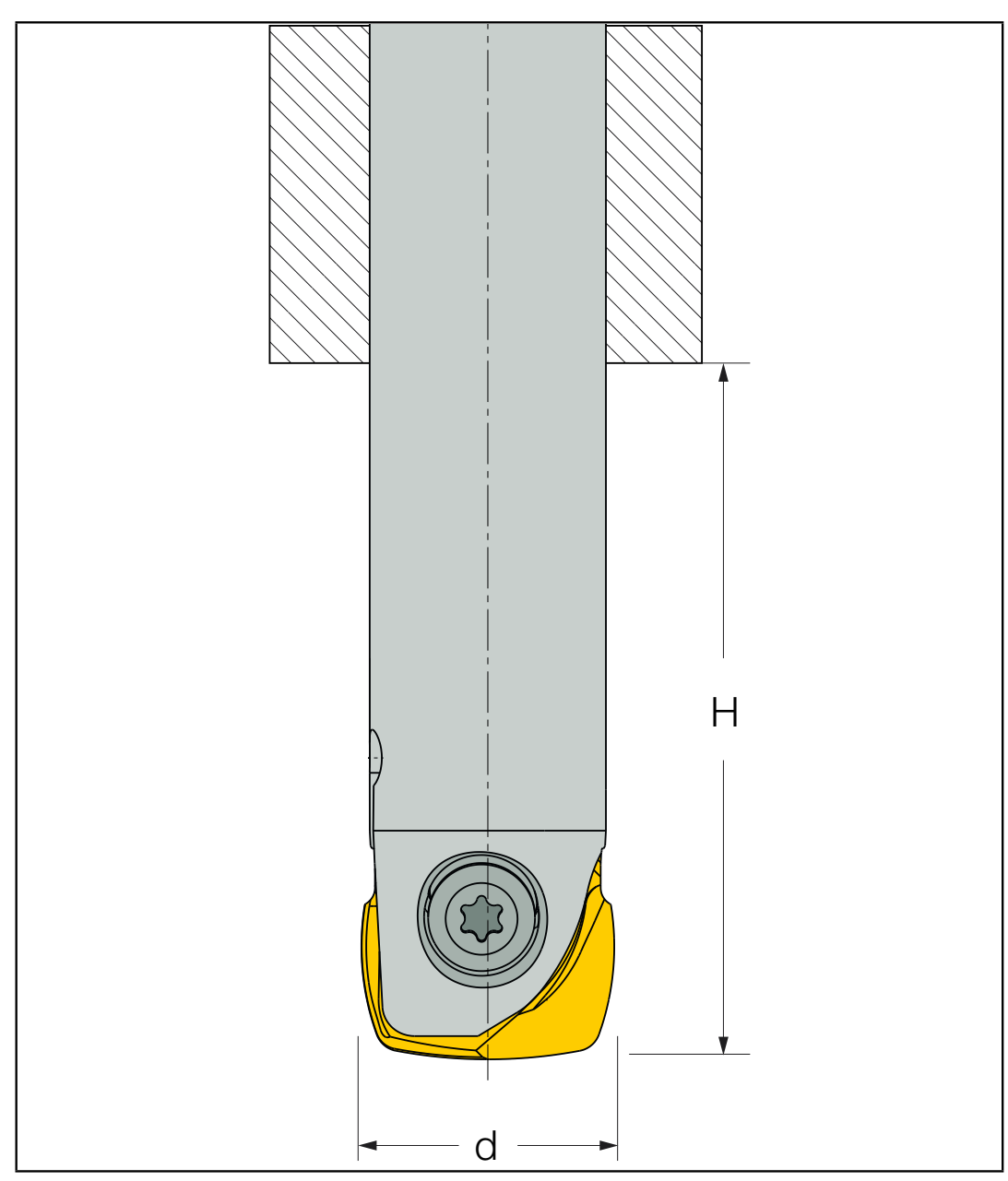


Table 2 - Overhang Factor k_H

H/d*	low then 3	over 3 up to 5	over 5 up to 6	over 6 up to 7	over 7
k_H	1	0.8	0.7	0.6	0.5

d* - nominal tool diameter