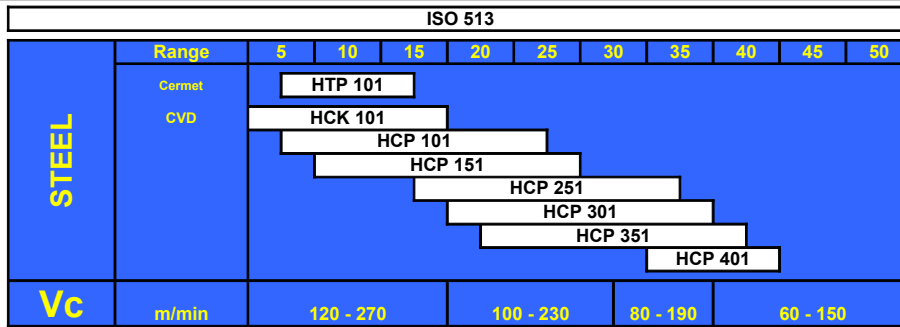


TURNING GRADE OVERVIEW IN STEEL OPERATION



Finishing

Roughing

Vc increasing
Vf small
ap small
Wear resistance increasing
Toughness decreasing

Vc decreasing
Vf large
ap large
Wear resistance decreasing
Toughness increasing

TECHNICAL GUIDE

HM - GRADE	SCALE 0-10=RANGE OF										APPLICATION				APPLICATION		
	TN Toughness / WR Wear resistance										Cutting condition				Machining condition		
	2	3	4	5	6	7	8	9	10	○	◌	◡	◊	F	M	R	
HTP 101	TN										●	○			●	○	
	WR																
HCK 101	TN										●	●	○		○	○	○
	WR																
HCP 101	TN										●	●			●	●	
	WR																
HCP 151	TN										●	●	○		●	●	
	WR																
HCP 251	TN										○	●	○	○	○	●	○
	WR																
HCP 301	TN										○	●	●	○	○	●	●
	WR																
HCP 351	TN										○	○	●	●	○	●	●
	WR																
HCP 401	TN												●	●		○	●
	WR																

Cutting conditions	Machining conditions	Recommendation
Excellent; continious cutting with continious thicknes of chips	F Finishing	● Ideal
Good; continious cutting with different thickness of chips	M Medium machining	○ Stil recommended
Fair; lichtig interrupted cutting	R Roughing	— Not recommended
Difficult; heavy interrupted cutting		