

# TURNING GRADE OVERVIEW IN CAST IRON OPERATION



**TECHNICAL GUIDE**

ISO 513												
<b>CAST IRON</b>	Range	5	10	15	20	25	30	35	40	45	50	
	Uncoated	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">HWK 101</div> <div style="border: 1px solid black; padding: 2px;">HFK 201</div> </div>										
	CVD	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">HCK 101</div> <div style="border: 1px solid black; padding: 2px;">HCP 101</div> <div style="border: 1px solid black; padding: 2px;">HCP 251</div> </div>										
<b>Vc</b>	m/min	100 - 270			60 - 150							

Finishing

Roughing

Vc increasing

Vf small

ap small

Wear resistance increasing

Toughness decreasing



Vc decreasing

Vf large

ap large

Wear resistance decreasing

Toughness increasing

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	
HWK 101	TN	■	■	■	■	■	■	■	■	■	●	○			●	○	
	WR	■	■	■	■	■	■	■	■	■	●	○			●	○	
HFK 201	TN																
	WR																
HCK 101	TN	■	■	■	■	■	■	■	■	■	●	●			●	●	○
	WR	■	■	■	■	■	■	■	■	■	●	●			●	●	○
HCP 101	TN	■	■	■	■	■	■	■	■	■	●	●			●	●	
	WR	■	■	■	■	■	■	■	■	■	●	●			●	●	
HCP 251	TN	■	■	■	■	■	■	■	■	■	○	●	○	○	○	●	○
	WR	■	■	■	■	■	■	■	■	■	○	●	○	○	○	●	○

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