

HP Vicious



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Specially developed for machining hardness materials up to 60HRC

Very high heat resistance

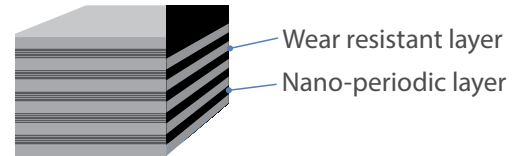
Hot hardness

Very high oxidation resistance (>1,100°C)

Low thermal conductivity

HP Vicious was developed for milling and drilling high hardened steels from 54HRC to 60HRC. Suitable for dry and wet machining.

Nano-layered Coating Structure



Composition	Color	Structure	Hardness (GPa)	Thickness (µm)	Oxidation Temperature (°C)	Coefficient of Friction	Surface Roughness (Ra)	Properties	Application
AlTiSi Based	Red Brown	Nanolayer	41 GPa	2 ~ 3.2 µm	1,100°C	0.3	0.10 ~ 0.25	Very high heat resistance and high abrasion resistance.	Drilling and milling high hardened steels from 54HRC to 60HRC. Suitable for dry/wet machining.

Available in Low Temperature, for more information, please contact our sales department or sales@primuscoating.com

Heat Resistance	High Adhesion	Surface Roughness	Wear Resistance	Welding Resistance	Toughness
○	○	○	○	○	○

P			H					M	K		N		S			-			
Carbon Steel			Alloy Steel	Tool Steel	Pre-Hardened Steel					Stainless Steel	Cast Iron	Ductile Cast Iron	Copper Alloy	Aluminum Alloy	Plastic	Titanium Alloy	Heat Resistant Alloys	Inconel	Graphite
C ~0.25%	C0.25% ~0.45%	C 0.45% ~	SCM	SKD SKS	~ 35 HRC	35 ~ 45 HRC	45 ~ 50 HRC	50 ~ 60 HRC	60 ~ 70 HRC	SUS	GG	GGG	Cu	AL	-	Ti			
			○		○	○	○	○			○	○							

○ Excellent ○ Good

Great Performance in Hardness Materials (60HRC) in High Speed Machining

HSM SKD11/D2 (60HRC)

Tool	Ball Nose Ø 8mm, R4
Work Material	SKD11/D2 (60HRC)
Cutting Speed	Vc=200m/min
Feed	Vf=870mm/min (0.12mm/t)
Milling Depth	ap=3mm / ae=0.5mm
Coolant	Air Blow

	Milling time (hours)				
	5	10	15	20	25
HP Vicious	+30%				
Competitor 1					
Competitor 2					



Wear after 30 meter machining

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