



# HP Vicious



# HP Vicious

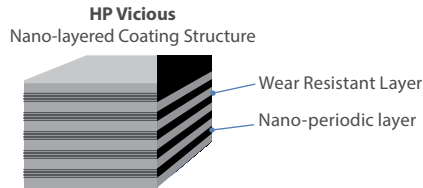
Specially developed for machining hardness materials up to 60HRC

**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.

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.

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 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)

<b>Tool</b>	Ballnose Ø 8mm, R4
<b>Work material</b>	SKD11/D2 (60HRC)
<b>Cutting Speed</b>	Vc=200m/min
<b>Feed</b>	Vf=870mm/min (0.12mm/t)
<b>Milling depth</b>	ap=3mm / ae=0.5mm
<b>Coolant</b>	Air blow

	Milling Time (hours)				
	5	10	15	20	25
<b>HP Vicious</b>	+30%				
Competitor 1					
Competitor 2					



Wear after  
**30 meter**  
machining

## PrimusCoating

**Primus Vietnam LLC**

Factory Address: C\_1B\_C6\_B, Lot C\_1B\_CN  
My Phuoc 3 Industrial Park, Thoi Hoa Ward  
Ben Cat Town, Binh Duong Province - 75951 Vietnam  
Tel.: +84 93 677 52 27  
hoang.cuong@primusvietnam.com  
www.primusvietnam.com

**We** listen  
understand  
deliver

[www.primuscoating.com](http://www.primuscoating.com)

PV-1123-Vicious

PRIMUS VIETNAM