



# HP Vicious



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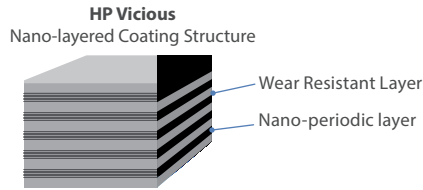
Specially developed for machining hardness materials up to 60HRC

**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.

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	C	C	SKD	SKS	SKD	SKS	SKD	SKS	SUS	GG	GGG	Cu	AL	-	Ti	-	-	-
~0.25%	0.25%~0.45%	0.45%~	SCM	SKS	SKD	SKS	SKD	SKS	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%				
<b>Competitor 1</b>					
<b>Competitor 2</b>					



Wear after 30 meter machining

# PrimCoat

PrimCoat PVD Technology India Private Limited

**Pune Plant**

Plot No. G-22, MIDC Phase II  
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**Bangalore Plant**

Plot No: 22-J2, Attibele Industrial Area  
Survey No 125, 126,127 - Ichhangur Village  
Attibele Hobli, Anekal Taluk, Bangalore- 562 107  
Karnataka, India

**Chennai Plant**

Plot No: K-16, Phase II  
SIPCOT Industrial Park - Mambakkam Village  
Sriperumbudur Taluk, Kancheepuram - 602105  
Tamil Nadu, India

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PC-1123-Vicious

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