

Insert Grades

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Cermet



Cermet

KYOCERA is known as the leading manufacturer of cermets. Cermet is composed of the words Ceramic and Metal. Typical materials used in cermets are TiC, TiN, TiCN and NbC. Designed to provide long tool life and excellent surface finishes, cermets combine toughness with superior wear resistance.

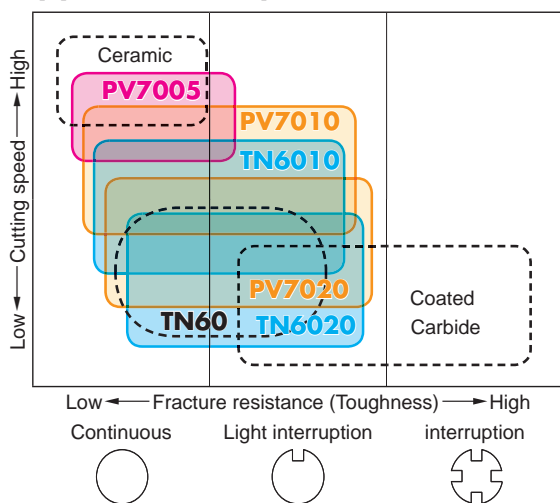
PVD Coated Cermet

PVD Coated Cermet is coated on cermet substrate with a thin layer of high wear resistance and high adhesion resistance by PVD (Physical Vapor Deposition) technology. Generally because of the low processing temperature of PVD compared with CVD, PVD Coated Cermet features less deterioration and more bending strength.

Features of Cermet and PVD Coated Cermet

Workpiece Material	Symbol	Color	Main Component (Coated Composition)	Advantages	
<div style="background-color: #0070C0; color: white; padding: 5px; text-align: center;"> P Steel </div>	Cermet	TN6010 (Super Micro-Grain)	Gray	TiCN	<ul style="list-style-type: none"> Improved surface cermet with superior wear resistance and toughness Application: Economical uncoated cermet for steel
		TN60	Gray	TiCN+NbC	<ul style="list-style-type: none"> Typical choice cermet with superior wear resistance and toughness Application: Cutting of steel and stainless steel
		TN6020 (Super Micro-Grain)	Gray	TiCN	<ul style="list-style-type: none"> Super micro-grain cermet with superior wear resistance and toughness Application: First choice cermet for steel and stainless steel cutting
		TN100M	Gray	TiCN+NbC	<ul style="list-style-type: none"> Tough cermet with improved oxidation resistance and thermal shock resistance Application: Milling of steel at high speed
		TC40	Gray	TiC+TiN	<ul style="list-style-type: none"> Good balance of wear resistance and toughness Application: Grooving and threading of steel
<div style="background-color: #D9534F; color: white; padding: 5px; text-align: center;"> K Cast Iron </div>	PVD	PV7010 (Super Micro-Grain)	Blackish red	TiCN (MEGACOAT)	<ul style="list-style-type: none"> Heat-resistant MEGACOAT on improved surface cermet with excellent wear resistance and toughness Application: Stable and improved tool life in steel cutting, excellent surface finish
		PV7020 (Super Micro-Grain)	Gold	TiCN (TiAlN+TiN)	<ul style="list-style-type: none"> TiAlN base PVD coat on super micro-grain cermet Application: First choice PVD coated cermet for steel cutting, good balance of superior wear resistance and toughness
		PV7025 (Super Micro-Grain)	Blackish red	TiCN (MEGACOAT)	<ul style="list-style-type: none"> MEGACOAT on the super micro-grain cermet Application: First choice PVD cermet for general steel cutting. High strength and long life given by MEGACOAT.
		PV7005	Blackish red	TiC+TiN (MEGACOAT)	<ul style="list-style-type: none"> Heat-resistant MEGACOAT on cermet with excellent wear resistance Application: High speed finishing of gray and nodular cast iron

Application Map



PV7025, PV7010, PV7005, TN6020, TN6010

MEGACOAT Cermet

- Improved tool life and high speed capability due to its superior heat resistance and hardness
- Stability improvement through prevention of crater wear (oxidation, diffusional wear)
- High thermal stability and surface smoothness provide excellent surface finish

PV7025: MEGACOAT for Steel

PV7010: MEGACOAT for Steel

PV7005: MEGACOAT for Cast Iron



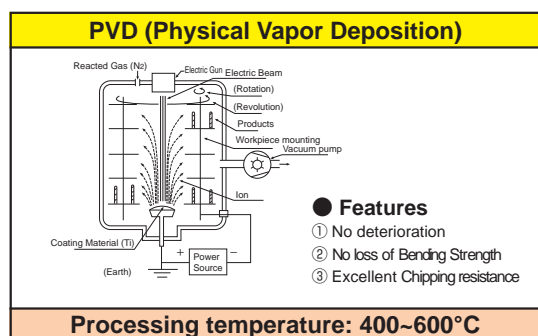
Improved Surface Cermet

- Hard surface and tougher inner phase
- Achieves balance between wear resistance and toughness
- Economical uncoated cermet

TN6020: Uncoated Cermet for Steel

TN6010: Uncoated Cermet for Steel

Features of PVD



- Features**
- No deterioration
 - No loss of Bending Strength
 - Excellent Chipping resistance

Properties of PVD Coating

