

# PCD



## PCD (Polycrystalline Diamond)

KYOCERA diamond material is a synthetic diamond sintered under high temperatures and pressures. PCD (Polycrystalline diamond) is ideal for non-ferrous metals and non-metals.

### FEATURES

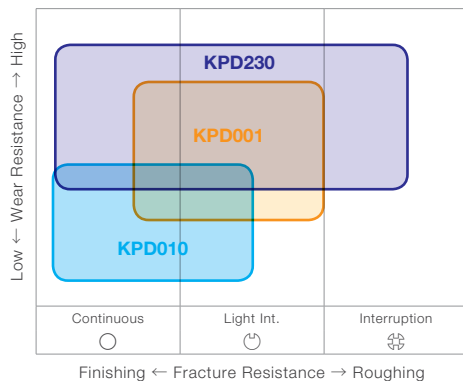
- Applicable for non-ferrous metals, non-metals turning, milling and other various type of cutting
- Long tool life due to extreme hardness
- Capable of high cutting speeds which increases cutting productivity
- Reduced edge build-up allows for high precision cutting
- Diversified applications for cutting of non-ferrous materials and non-metals
- Finished surface will be rainbow colored.  
(a mirror-like finished surface will not be obtained when single crystal diamond is used.)

FEATURES OF PCD			
Material	Description	Av. Grain Size (µm)	Advantages
	KPD001	0.5	<ul style="list-style-type: none"> <li>• Super Micro-Grain PCD features cutting edge strength, wear resistance, fracture resistance, good edge-sharpening performance and long, stable tool life.</li> <li>• Application: High speed cutting of aluminum alloys, brass, non-ferrous metals and non-metals including plastics, fiberglass, carbide and ceramics.</li> </ul>
	KPD010	10	<ul style="list-style-type: none"> <li>• Good wear resistance and toughness, good grindability</li> <li>• Application: General purpose, high speed cutting of aluminum alloys, non-ferrous metals and non-metals including plastics, fiberglass, carbide and ceramics.</li> </ul>
	KPD230	2-30	<ul style="list-style-type: none"> <li>• Superior abrasive wear resistance and toughness due to high density PCD with mixed rough and fine grains</li> <li>• Application: High speed milling of aluminum alloys, non-ferrous metals, plastics and fiberglass</li> </ul>

### Applications

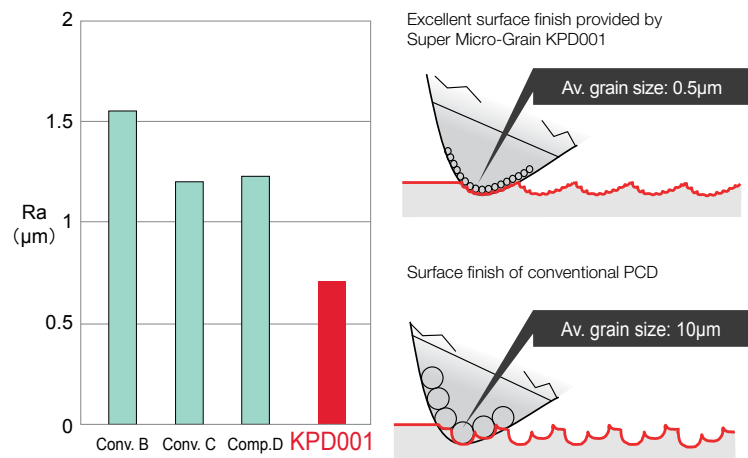
Workpiece Material	Non-ferrous materials (Aluminum / Non-ferrous metals / Non-metals)				Difficult-to-Cut Materials Titanium / Titanium alloys			
	Cutting Range				Cutting Range			
Classification	N01	N10	N20	N30	S01	S10	S20	S30
Turning Milling	KPD001				KPD001			
	KPD010				KPD010			
	KPD230							

### Application Map



### Surface Finish Roughness

#### Comparison of Aluminum Cutting



(Grain size affects surface finish quality)

GRADES A  
INSERTS B  
CBN & PCD C  
TOOLHOLDERS D  
SMALL TOOLS E  
BORING F  
GRINDING G  
CUT-OFF H  
THREADING J  
HSK TOOLING N  
SPARE PARTS P  
TECHNICAL R  
INDEX T