

# Insert Grades

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## PCD



### PCD

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.)

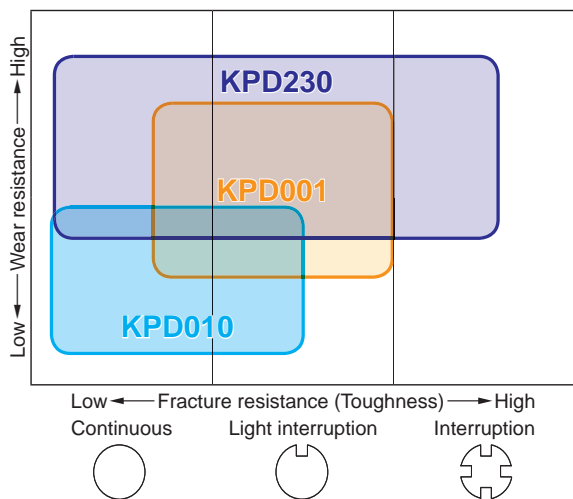
### Features of PCD

Workpiece Material	Symbol	Avg. 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>

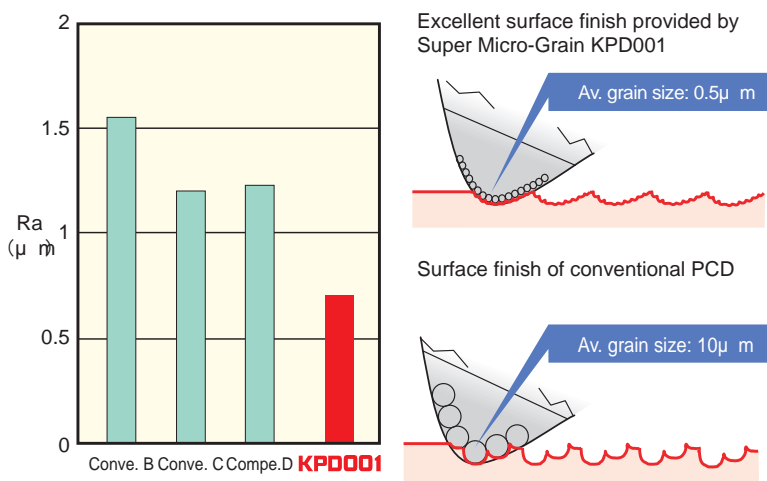
### Applications

Workpiece Material	Non-ferrous materials (Aluminum / Non-ferrous metals / Non-metals)				Titanium / Titanium alloys			
	Finishing		Roughing		Finishing		Roughing	
Classification	N01	N10	N20	N30	S01	S10	S20	S30
Turning Milling								

### Application Map



### Surface Finish Roughness Comparison of Aluminum Cutting



(Grain size affects surface finish quality)