

# INSERT GRADES

## CBN



### CBN

KYOCERA CBN is second only to diamond in hardness. CBN (Cubic Boron Nitride) is a synthetically produced material with high thermal conductivity which provides stable cutting.

### FEATURES

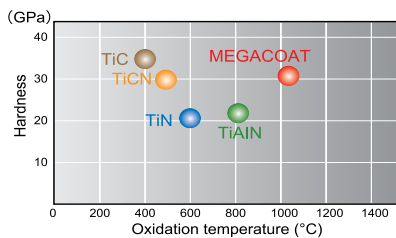
- Superior wear resistance when cutting hardened materials
- Suitable for high speed cutting of cast iron and sintered steel
- High thermal conductivity provides stable cutting

### FEATURES OF CBN

Material	Description	Color	Av. Grain Size (µm)	Hardness of Substrate (GPa)	Transverse Strength (MPa)	Advantages
<b>H</b> Hardened Materials	<b>KBN510</b>	Black	2	28	1,000	<ul style="list-style-type: none"> <li>• Excellent wear resistance and crack resistance, non-coated CBN</li> <li>• Application: Finishing and continuous cutting of hardened die steel</li> </ul>
	<b>KBN525</b>	Black	1 and Under	25	1,250	<ul style="list-style-type: none"> <li>• Good balance of toughness and wear resistance, non-coated CBN</li> <li>• Application: General grade for hardened steel, high stability at high speed and high feed cutting</li> </ul>
	<b>KBN05M (MEGACOAT)</b>	Blackish Red	0.5-1.5	27	1,000	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on highly heat-resistant CBN substrate</li> <li>• Application: High speed finishing of hardened steel</li> </ul>
	<b>KBN10M (MEGACOAT)</b>	Blackish Red	2	28	1,000	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on CBN with hard binder phase, superior anti-crater wear resistance</li> <li>• Application: High speed finishing of hardened die steel</li> </ul>
	<b>KBN25M (MEGACOAT)</b>	Blackish Red	1 and Under	25	1,250	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on micro-grain CBN with heat resistant binder phase</li> <li>• Application: Stable cutting of hardened steel at high speed</li> </ul>
	<b>KBN30M (MEGACOAT)</b>	Blackish Red	1-4	30	1,350	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on tougher CBN</li> <li>• Application: Stable cutting of hardened steel for continuous to interrupted cutting</li> </ul>
Sintered Steel	<b>KBN65B</b>	Black	2	32	1,150	<ul style="list-style-type: none"> <li>• Excellent wear resistance due to CBN with heat-resistant binder phase, non-coated CBN</li> <li>• Application: Stable cutting of sintered steel (ferrous sintered alloy) at low speed</li> </ul>
	<b>KBN570</b>	Black	2-4	34	1,350	<ul style="list-style-type: none"> <li>• High CBN content ratio</li> <li>• Application: Machining of sintered steel (preventing burr formation)</li> </ul>
	<b>KBN65M (MEGACOAT)</b>	Blackish Red	2	32	1,150	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on CBN with heat-resistant binder phase</li> <li>• Application: Stable cutting of sintered steel (ferrous sintered alloy) at low speed</li> </ul>
	<b>KBN70M (MEGACOAT)</b>	Blackish Red	2-4	34	1,350	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on CBN rich substrate</li> <li>• Application: General cutting of sintered steel (ferrous sintered alloy) at high speed</li> </ul>
<b>K</b> Cast Iron	<b>KBN475</b>	Black	2	39	1,400	<ul style="list-style-type: none"> <li>• Excellent wear resistance due to high CBN content and special binder</li> <li>• Application: High speed machining of gray cast iron</li> </ul>
	<b>KBN60M (MEGACOAT)</b>	Blackish Red	0.5-6	33	1,250	<ul style="list-style-type: none"> <li>• Heat-resistant MEGACOAT on CBN rich substrate with hard binder phase</li> <li>• Application: High speed finishing of gray cast iron</li> </ul>
	<b>KBN900 (TiN COAT)</b>	Gold	9	31	1,050	<ul style="list-style-type: none"> <li>• TiN coated solid CBN</li> <li>• Application: Heavy duty, interrupted cutting and finishing of hardened steel, hardened roll steel and cast iron</li> </ul>

### MEGACOAT CBN

#### ● Properties of PVD Coated Layer



#### ● Advantages of MEGACOAT



- Long tool life and stable cutting due to superior heat-resistance and hardness
- Improvement of crater wear (oxidation, diffusional wear) resistance
- High thermal stability and surface smoothness provide excellent surface finish

### Application Map

