

DIAMOND AND CBN SELECTION GUIDE

Diamond is for non-ferrous applications - materials that contain no iron. CBN is used on ferrous materials

MATERIAL	DIA.	CBN	MATERIAL	DIA.	CBN
CARBIDE			METAL WORKING		
Tungsten Carbide (cutting tools, drills, carbide tipped saws, wire drawing dies)	•		Hardened Steel (> 50 HRc)		
Titanium Carbide (coatings, wear parts)	•		Tool, Die, High Speed Steels (A2, D2, M2, etc)		•
CERAMICS			Alloy Steels (4130, 4340, 5150 etc)		•
Alumina	•		Carbon Steels (1050, 1095)		•
Aluminum Oxide (grinding wheels, laboratory)	•		Stainless Steel (Martensitic 410, 440A)		•
Carbide Ceramics (electronics)	•		Superalloys (> 35 HRc)		
Ceramic Silica (Refractory, fire bricks)	•		Nickel based (Inconel, Rene, Waspalloy)		•
Ceramics (Unsintered)	•		Cobalt base (Stellite, Airesist etc)		•
Ceramic Wall and Floor Tiles	•		Iron base (Incoloy)		•
Nitride Ceramics (Silicon Nitride)	•		Cast Iron		
Sandstone	•		Gray Iron (> 180BHN) (Engine Blocks)		•
Zirconia	•		White (> 450 BHN) Nickel Hard Rolls		•
COMPOSITES & AEROSPACE MATERIALS			Ductile (> 200 BHN) (Crankshafts)		•
Thermoplastic (ABS)	•		Hard Facing Materials (> 35 HRc)		
Thermoset (Bakelite, Melamine)	•		Carbide/Oxide Base (UCAR, LC-4)	•	
Fiber Reinforced Plastics	•		Metal Base (Stellite, Hastalloy)		•
Carbon Fiber Composites	•		MOLD AND DIE		
Ceramic Aggregate	•		Steel Wire Drawing Dies	•	
Metal Matrix	•		Copper, Titanium and Aluminum Wire Dies	•	
ABRASIVES			Heading Dies (Fasteners)	•	
Boron Carbide (Seals)	•		Bar and Tube Forming Dies	•	
Silicon Carbide (Bushings)	•		Progressive Dies	•	•
Aluminum Oxide (Grinding wheels)	•		Molds for the Plastics Industry	•	•
Silica (Insulators)	•		AUTOMOTIVE		
Carborundum	•		Friction (brake pads, lining, clutch disc)	•	
STONE (PRECIOUS AND SEMI PRECIOUS)			Seals (Weatherstrips)	•	•
Agate	•		Connecting rods, valves, fuel injection nozzles		•
Amethyst	•		CARBON		
Diamond	•		Graphite molds, bushes and seals	•	
Emerald	•		Carbon reinforced fiber (golf clubs, fishing rods)	•	
Jade	•		PLASTICS		
Opal	•		Engineered Plastics	•	
Ruby	•		Reinforced Plastics	•	
Sapphire	•		Epoxy Plastics	•	
Topaz	•		GLASS		
Zircon	•		Fibre Reinforced Glass	•	
ELECTRONICS			Glass Epoxy Sheet	•	
Silica Based (Semi Conductor)	•		Glass Insulators (Electrical)	•	
Germania Based (Semi Conductor)	•		Glass Laminates (Safety Glass)	•	
Printed Circuit Boards	•		Optical Glass	•	
Epoxy Sheet	•		Quartz Glass	•	
Piezoceramics	•		Sheet Glass	•	
Insulators	•		CONSTRUCTION		
MAGNETIC MATERIALS			Brick	•	
Sintered Ferrites	•		Concrete	•	
Cast Ferrites	•		Granite	•	
Electromagnets	•		Limestone	•	
Permanent Magnets	•		Marble	•	
			Masonry	•	



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