TYSON infoTECH™

Issue 10

PCD & CBN

XPHW/XPHT Indexable Inserts for Square Shoulder Milling Cutters

EDGE PCD

EDGE PCD inserts are widely used to machine practically all non-ferrous metals, ranging from soft aluminum through cemented tungsten carbide. They are also used to machine plastics, including plastics filled or reinforced with difficult-to-machine materials. Ceramic materials and graphite are other materials being machined with EDGE PCD inserts.

The polycrystalline diamond layer resists wear far better than many ordinary tool materials, and resists chipping and cracking. In addition, the polycrystalline diamond layer is firmly supported by the cemented tungsten carbide substrate. This gives the blank added toughness and shock resistance, especially for use in work pieces with interrupted cuts.

EDGE PCD inserts can handle workpieces that have hard inclusions which cause excessive edge wear on ordinary tools.

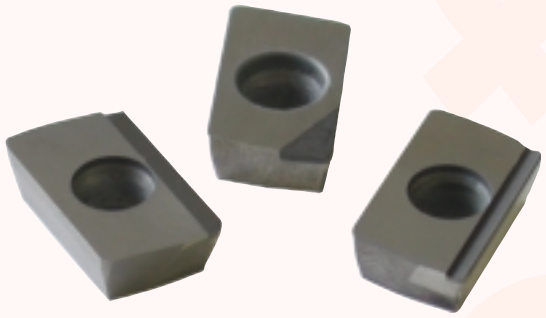
EDGE PCD inserts tend to keep their sharp edges, even when removing material at rates far above those possible with carbide inserts. This means that close dimensional and surface finish tolerances can be held through long production runs.

EDGE CBN

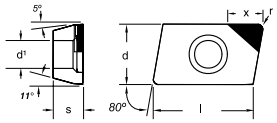
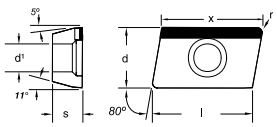
EDGE CBN inserts are designed to finish machine hardened steels (> 45 Rc) and gray & nodular cast iron. EDGE CBN can replace conventional grinding with highly efficient cutting while delivering excellent surface finishes.

EDGE CBN is composed of one the hardest cutting materials, cubic boron nitride (CBN) which is embedded in titanium ceramic. This composition offers EDGE CBN greater thermal stability, added fracture toughness and excellent edge stability, and its hardness makes it more wear-resistant.

EDGE CBN in conjunction with its superior qualities, higher material removal rates and faster cutting speeds, decreases cycle times and prolongs tool life, which in turn increases productivity and lowers production costs.



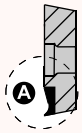
XPHW- ... F ..

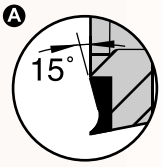
Insert	Designation	Dimensions						PCD		CBN	
		l	s	r	d	d_1	x	E20	E30	CG60	CH25
	**XPHW-160408F20** *(MAX. Depth of cut .200")*	.630	3/16	1/32	3/8	.173	.250	●	●		
	XPHW-160408F20-R0815 *(MAX. Depth of cut .200")*			1/32			.250			●	
	XPHW-160408F20-R0525 *(MAX. Depth of cut .075")*			1/32			.250				●
	**XPHW-160408F50** *(MAX. Depth of cut .500")*	.630	3/16	1/32	3/8	.173	.600	●	●		

PCD & CBN *Indexable Inserts for Milling*

"THE WAVE"

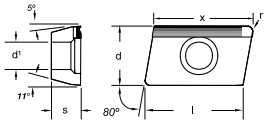
High Shear Milling with Diamond Tipped Inserts





"The Wave"
• High Shear Cutting •
• Improved PCD Stability •
• Extended Tool Life •

XPHT- ... W ..

Insert	Designation	Dimensions						PCD		CBN	
		l	s	r	d	d_1	x	E20	E30	CG60	CH25
	**XPHT-160408W50** *(MAX. Depth of cut .500")*	.630	3/16	1/32	3/8	.173	.600	●			

EDGE PCD / CBN Grade Characteristics

E20

- PCD grade used to finish machine abrasive materials, non-ferrous metals and non-metallic materials
- Highly wear resistance with very good abrasion resistance qualities
- Ground to a very sharp edge, thereby providing very good surface finishes
- Achieves excellent tool life

E30

- PCD grade used for rough turning and milling, highly abrasive materials, non-ferrous metals and non-metallic materials
- Combined edge toughness and good wear resistance, with excellent abrasion resistant qualities
- The insert has a good edge providing for good surface finishes
- Achieves excellent tool life

CBN CG60

- High speed finish milling of gray & nodular cast iron
- Combines high edge toughness with good wear resistance
- Excellent high impact strength
- Excellent cutting edge properties due to a combination of random CBN crystal orientation and their strong bond to each other & the carbide substrate

CBN CH25

- High speed finish milling of hardened tool and die steels (>45 Rc)
- Higher material removal rates thus decreasing cycle times and increasing productivity
- Replaces conventional grinding with highly efficient cutting
- Excellent surface finishes and long tool life is achieved through excellent edge stability, fracture toughness, high wear resistance and high temperature performance

TYSON TOOL™

TYSON TOOL COMPANY LIMITED
75 ORMONT DRIVE, TORONTO, ONTARIO, M9L-2S3
TEL: (416) 746-3688 ~~ FAX: (416) 746-5415
INTERNET: www.tysontool.com ~~ E-MAIL: sales@tysontool.com

ISO 9002 SGS

Available from: