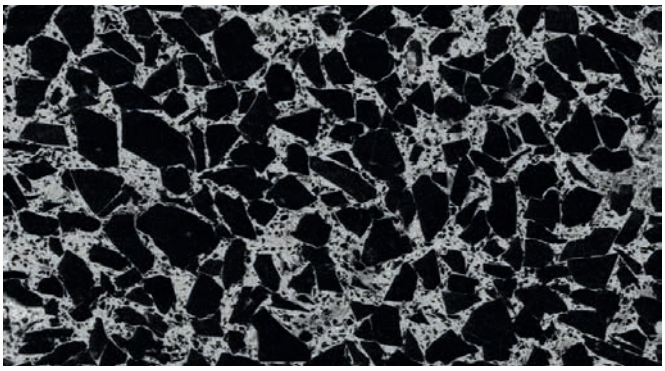
PURECUT™ DHA650

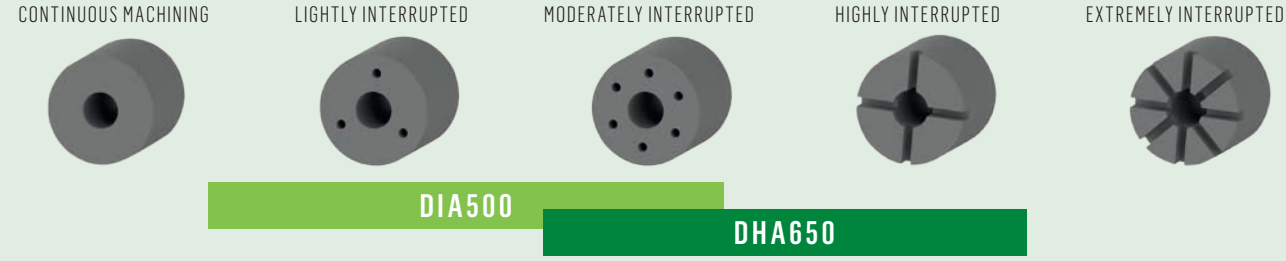
For moderately to heavily interrupted hard turning and finish hard milling in both dry and wet conditions. Suitable for both conventional and elevated machining speeds.

DHA650 exhibits superior crater wear resistance and toughness thanks to its ultra-pure nano structure binder, combined with optimised CBN grain size distribution.

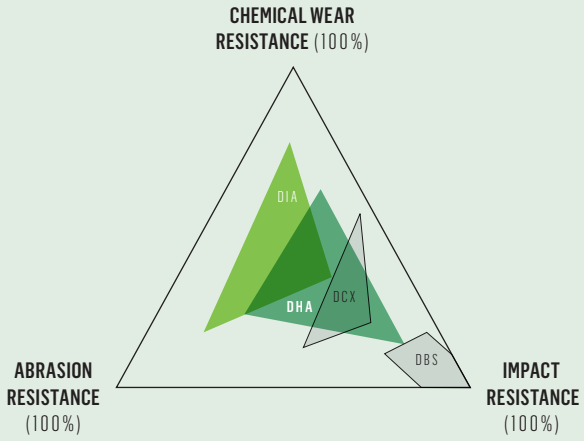


2μm

TARGET APPLICATION: MODERATELY TO HIGHLY INTERRUPTED MACHINING



DHA650 OFFERS IMPROVED CHEMICAL WEAR, ABRASION AND IMPACT RESISTANCE OVER DCX650



CHEMICAL WEAR RESISTANCE:

PCBN's ability to resist crater wear during machining; it can be additionally improved through reducing cutting speed or chamfer angle.

ABRASION RESISTANCE:

PCBN's ability to resist flank wear during machining; it can be additionally improved through increasing feed rate or clearance angle.

IMPACT RESISTANCE:

A measure of the PCBN's toughness during machining; it can be additionally improved through increasing feed rate or chamfer angle.

GRADE SUMMARY

GRADE	CBN CONTENT (%)	PCBN FORMAT	BINDER	CBN SIZE (μm)	SPEED (M/MIN)	DoC (MM)	FEED (MM/REV)	CHAMFER ANGLE (°)	CHAMFER WIDTH (MM)	HONE (μm)	NOSE RADIUS (MM)
DHA650	65%	Solid PCBN	TiC/TiN	Bimodal <4μm	130-250	0.05-0.3	0.05-0.5	20-35	0.12-0.2	15-35	0.4-1.6

GRADE PROPERTIES

	DENSITY (g/cm^3)	VICKERS HARDNESS (GPa)	YOUNG'S MODULUS (GPa)	TRS (MPa)	THERMAL DIFFUSIVITY (mm^2/s)	THERMAL CONDUCTIVITY W/mK
	PHYSICAL	MECHANICAL			THERMAL	
DHA650	3.96	34.5±2.5	670±20	820±80	28.13	74.9
DCX650	4.01	31.3±2.4	620±60	1030	18.4	52.6

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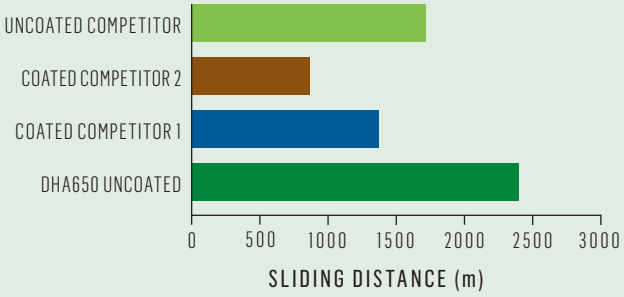
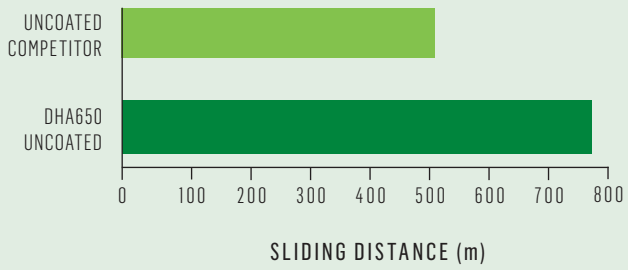
APPLICATION TEST RESULTS AGAINST LEADING COMPETITORS

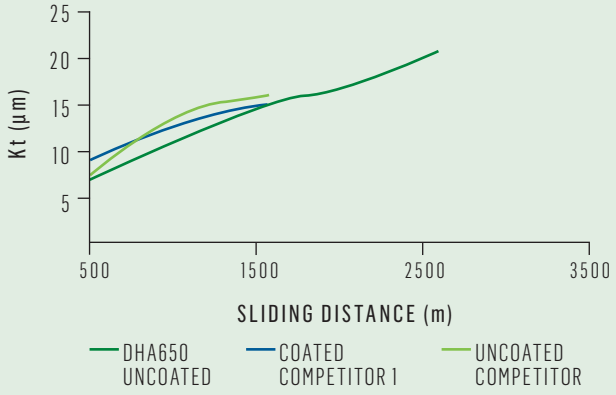
TOOL LIFE NORMAL SPEED



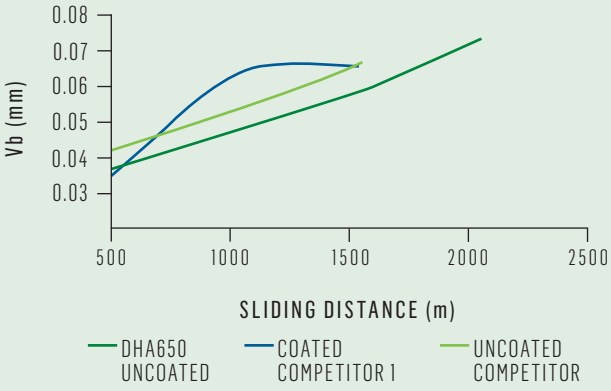
TOOL LIFE HIGH SPEED



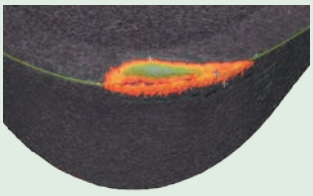
CRATER WEAR PROGRESSION



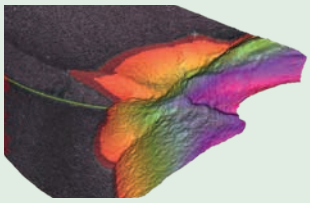
FLANK WEAR PROGRESSION



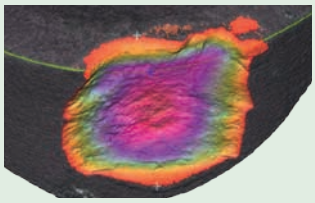
PCBN WEAR AFTER 2000 METERS



DHA650 – Uncoated



Competitor – Coated



Competitor – Uncoated

TEST CONDITIONS

SPEED: 150 m/m normal speed and 220 m/m high speed

FEED: 0.11 mm/rev

DEPTH OF CUT: 0.15mm

EDGE PREP: DHA650 SNMN090408S01525 hone 17.5um

Tool life criteria is catastrophic failure of the cutting edge

FOR MORE INFORMATION

Contact an Element Six representative:
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Website: www.e6.com