

## BC8210 COATED PCBN GRADE NEXT GENERATION TECHNOLOGY

### Hardened Steel Turning

Mitsubishi Materials has developed a new and innovative coated PCBN insert grade, BC8210. In doing so it has extended its comprehensive range of turning inserts. The grade incorporates the company's state of the art coating technology that provides outstanding wear resistance, as well as providing a product that improves productivity and usability.

The new grade is suitable for continuous through to light interrupted cutting. BC8210 exhibits excellent chipping, flank and crater wear resistance, thereby providing a stable machining process at high speed cutting conditions. A combination of the newly developed AlCrSiN-base coating that absorbs impacts, and the TiAlSiN-base coating which has excellent wear resistance, provides stability during continuous through to low interrupted cutting applications.

At depths of cut up to 0.35 mm and at cutting speeds up to 300 m/min means a market leading range of applications can be covered by a single grade. This brings a simplification of choice for production and CNC programming and reduces inventory costs.

### High Technology Substrate and Coating

The new line of CBN inserts delivers a variety of performance and benefits through constant refinement and R&D work. This has created a new sintered substrate containing both micro and medium grain CBN particles, but with an ultra micro-particle binder. This new binding technology in the substrate provides ultra heat resistant and prevents sudden fracture by eliminating the potential for linear crack development. With the cutting forces being dispersed radially by this new binder formula, BC8210 excels when machining extremely hard steels. Additionally, this new substrate enables a wider range of applications, provides greater chipping resistance and wears less.



The latest technology has also been applied to a specially developed, multi-layer PVD coating that the BC8210 grade utilises. This all new multi-layer coating includes a TiAlN bottom layer that greatly improves adhesion between the base layer and the CBN substrate and provides exceptional peeling resistance. Above this layer is an additional TiAlN layer that provides outstanding chipping and crater wear resistance. Together with a gold coloured, TiN top layer for easy identification of used edges, BC8210 achieves high performance, speeds and reliability over a wider range of hardened steel machining applications.

### Choice of Chipbreakers

BC8210 inserts are available with 4 different chipbreakers; the FS and GS types for general cutting, the GH for higher feeds and depths of cut and finally the TS type for light interrupted machining.

### Availability

The initial launch of BC8210 will include an extensive range of negative geometries with multiple cutting edges in CNGA, CNGM, DNGA, DNGM, SNGA, TNGA, VNGA and WNGA types, plus positive CCGT, CCGW DCGT DCGW TPGB CPGB VBGW VCGW geometries.

