

BC8100 CBN INSERT SERIES FOR HARDENED STEEL APPLICATIONS

For the efficient turning of high hardened steel, Mitsubishi Materials has an extensive range of coated CBN insert grades, the BC8100 series. Four grades make up the complete range:

BC8105 for the highest speeds and fine surface finishing. This grade can provide long tool life and fine surface finishes of Ra 0.6µm or better due to the improved lubricity of the CrAlN and TiAlN layered coating.

BC8110 is the first choice for continuous high speed and light interrupted machining up to 310 m/min cutting speeds.

BC8120 for general applications delivers a substantially better wear resistance and cutting edge toughness through use of a substrate with a new micro-particle binder that prevents crack development. This micro particle binder is also adopted across the whole 8100 series.

BC8130 is for the toughest workpieces and for heavily interrupted cutting. Peeling of the coating, usually caused by the impact of interrupted machining, is prevented by the adoption of a high CBN content substrate and a customised ceramic coating.

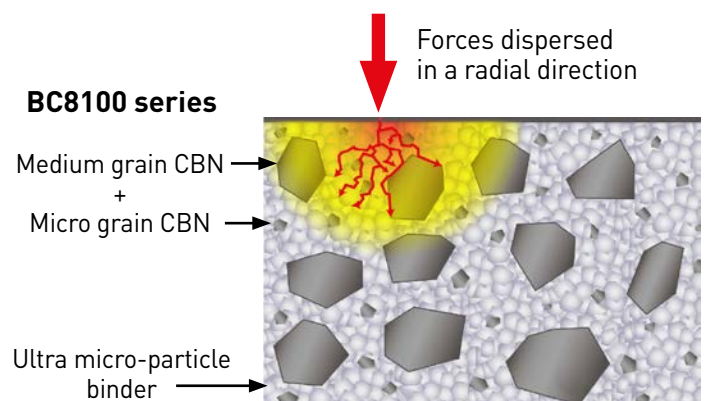
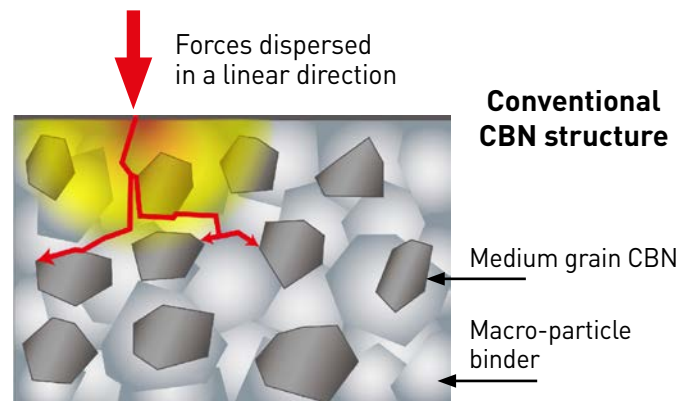
Coating Technology

All grades incorporate next generation advanced ceramic coating technology that provides outstanding wear resistance and improves productivity. All the different coatings include a TiAlN layer that improves adhesion between the base layer and the CBN surface whilst also generating exceptional peeling resistance. Whilst each coating has similarities, they also have their own specific characteristics that makes it ideally suited to each application.

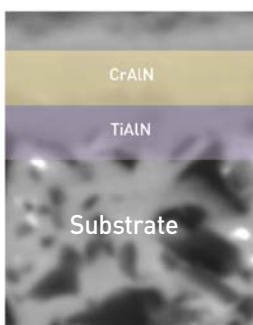


Substrate technology

Serious thought and research resulted in the innovative new substrate technology used across the whole BC8100 series. Micro and medium grain CBN particles are bound together by an ultra-micro particle binder material. This prevents linear crack development and sudden fracturing by dispersing the impact and cutting forces radially. The result is a consistently high performance for the end user.



BC8105



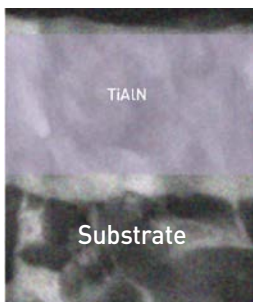
Low friction coating

BC8110



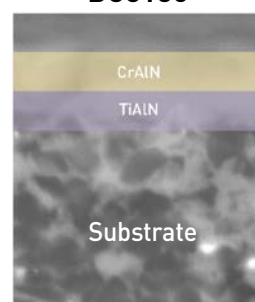
High wear resistance

BC8120



Resistance to peeling

BC8130



Prevents insert chipping

Availability

To extend the potential of these CBN grades, Mitsubishi now has available a wide range of ISO insert geometries with an extensive choice of standard honing types for small depths of cut through to heavy interrupted applications. Additionally, 2 chipbreakers are available for removing carburised layers and for intermittent hard soft material machining.