

MITSUBISHI'S HEADLINE CAST FOR IRON TURNING APPLICATIONS

For high performance cast iron turning, Mitsubishi Materials has now extended its renowned MC5000 series of turning inserts for cast iron with the launch of several new geometries for the MC5005 and MC5015 CVD coated grades.

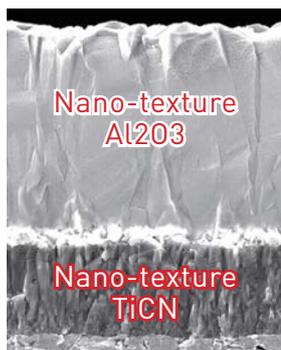
MC5005 introduces an innovative new ultra thick Al₂O₃ layer that is twice the thickness of conventional coatings. This combines with a TiCN nano-texture layer that is bound by Mitsubishi's patented "Tough Grip Technology" to outperform conventional carbide and ceramic grades when conducting continuous cutting of grey cast iron. This ultra thick layer prevents the coating from peeling and eliminates edge chipping that is a common occurrence with competitor grades. Working in tandem with an enhanced carbide substrate, the result is significantly improved tool life and surface finishes together with greater process reliability and reduced tooling costs.

Complementing MC5005, the MC5015 series is composed of the same substrate and coating layer technology as the MC5005, but has been developed for interrupted machining applications. With a thicker TiCN layer than MC5005, the MC5015 series has an ideal distribution of hardness and toughness that provides extreme plastic deformation resistance nearer the surface whilst delivering overall toughness to prevent insert breakage under heavy loads during interrupted machining. The result is remarkable performance and tool life through prolonged wear resistance.

ULTRA THICK COATING LAYERS

The newly developed CVD coating offers better coating adhesion and due to its thick Al₂O₃ layer, the result is improved reliability due to a higher chipping resistance.

MC5005



MC5015



The new inserts, as with the whole range, are available with Mitsubishi's LK, MK and RK chipbreaker designs and also available with a flat top geometry for unstable cutting and for cast iron with a thick layer of skin. The LK chipbreaker provides a positive land with a sharp cutting edge to provide low cutting resistance whilst the MK chipbreaker incorporates the optimal balance between edge sharpness and edge strength for more general cast iron applications. Furthermore, the RK chipbreaker has tripled the conventional ratio of the seating area and land width to enhance stability when conducting intermittent machining and when removing scale.

To simplify the insert selection process for the end user, Mitsubishi has introduced its new Easy Selection Breaker System. The chipbreaker designations are broken down into L, M and R for Light, Medium and Rough machining whilst the K designation identifies the ISO material specification. This innovative yet simple approach provides the customer with clarity and simplicity when identifying the required insert grade and chipbreaker types. The grades and chipbreaker designations are also provided in tabulated format to further facilitate the insert selection process.