

WJX - NEW SIZES AND INSERT GRADE

Mitsubishi Materials has added 2 new sizes and a new insert grade to its recently launched WJX series of high feed cutters. WJX has been designed to be multi-functional and able to perform at high feed rates to ensure usability and efficiency across a wide choice of applications. To increase its capabilities, 2 smaller diameters, 50 mm and 52 mm have been introduced, with the Ø50 being provided in both 3 and 4 tooth types. Furthermore, a new grade of insert, MC7020, for high performance machining of steels and stainless steels has been added to expand the range of applications for the WJX series. The CVD coated MC7020 grade has been designed to suppress crater wear that occurs during high speed cutting, and helps to achieve process stability, especially in high efficiency machining conditions.

The high feed capability of this new cutter means it is ideal for rough machining under the demands of modern high efficiency conditions. WJX achieves stable machining and lowers cutting noise at high depths of cut and even during interrupted machining. This is due to its ability to reduce the cutting resistance generated at the initial point of contact between the insert and material.

Inserts

The double-sided negative inserts with the complex-shaped flank face provides excellent economy, increased sharpness and strength. The unique cutting edge geometry forms short chips and helps to prevent chip tangling to further enhance usability. To cope with the loads at high feed rates, the increased insert thickness provides the strength needed and helps to prevent sudden fracturing. Furthermore, a straight



section of the cutting edge extends along the insert to enable high feed machining even at maximum depths of cut. The chip pocket area is left clear by use of a dovetail geometry that prevents the insert from lifting and provides stable clamping without the need to use a clamp bridge. In addition, the dovetail insert pocket geometry helps to absorb cutting forces. The cutting edge also has a small wiper face that provides good surface finishes for rough machining. Overall, the geometry of the inserts provides the best features of traditional single sided inserts, namely good ramping performance and sharpness, whilst also having the best double sided features of cost efficiency and strength.

Grades and sizes

MC7020 complements the eight different grades of insert currently available and the new Ø50 and Ø52 adds to the existing Ø63-Ø160mm range.

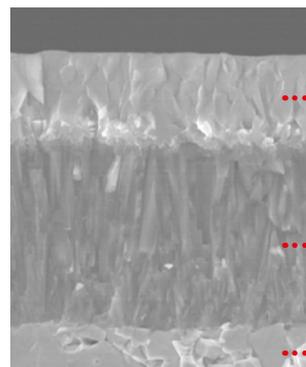


DOUBLE BENEFITS

SINGLE SIDED FEATURES
Positive rake, Sharpness

DOUBLE SIDED FEATURES
Cost effective, Strength

Coating Structure of MC7020



Al₂O₃ Layer

TiCN Layer

Carbide Substrate