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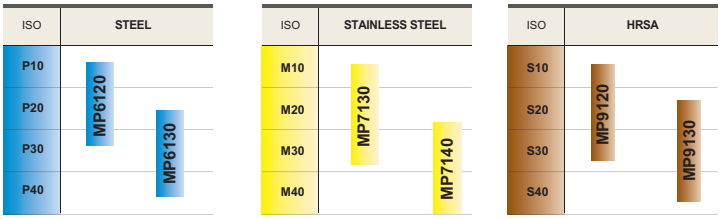
PRESS RELEASE

NEW PVD COATED HIGH PERFORMANCE MILLING GRADES

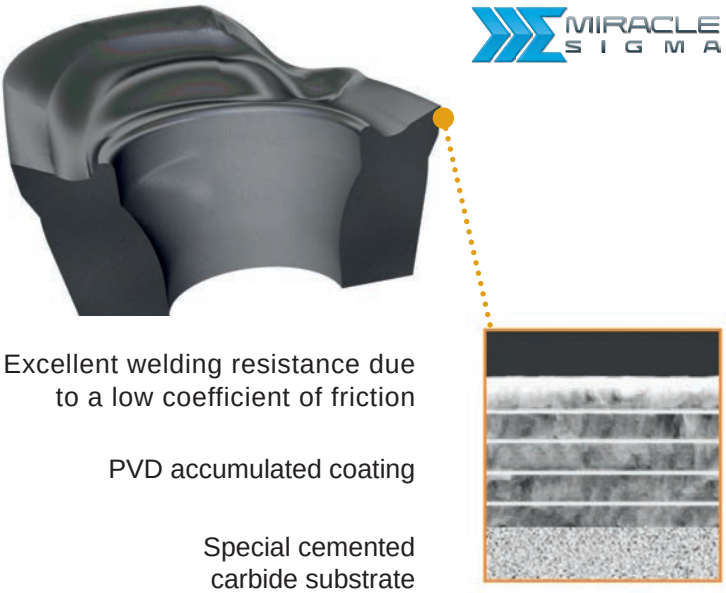
Mitsubishi Materials has launched an exciting new range of PVD coated carbide milling grades; MP6120 & MP6130 are optimised for machining steel, MP7130 & MP7140 are designed for cutting stainless steels and MP9120 & MP9130 are ideal for milling difficult to cut materials such as heat resistant and titanium alloys. These new grades are able to maximise productivity by enabling the optimum insert to be chosen according to the application without a compromise in cutting conditions that is sometimes necessary with a general purpose grade.



MIRACLE SIGMA

The new grades use the very latest MIRACLE SIGMA PVD coating technology that utilises accumulated layers of Al-Ti-Cr-N based PVD coatings to provide extremely high levels of wear, heat and welding resistance that was not possible with older coatings.

Indexable insert milling applications naturally have intermittent contact with the workpiece. This can cause problems such as thermal cracking of carbide inserts, especially during wet cutting. However the multi-layering of the new coating helps prevent any crack propagation through to the carbide substrate, this in turn dramatically improves the overall fracture resistance of the insert. Mitsubishi has called this feature, TOUGH-Σ technology.



MIRACLE SIGMA technology has been used across all the grades but has been adapted and optimised for each type. The MP6000 inserts have an Al-Cr top coating that offers the best solution for wear and welding resistance to steels. The MP7000 type is slightly different because it has a smooth Ti top coating that was found to be the best option when machining stainless steels. The MP9000 series; for heat resistant and titanium alloys, employs an outermost layer of Cr that provides the lowest coefficient of friction coupled with the best heat and wear resistance for this application group.

The new grades are available in several different geometries and chipbreaker styles to suit Mitsubishi's range of high performance milling cutters. Over 50 different insert types are available for the range of facemill and shoulder milling cutters. In addition the VFX and SRF series of cutters also benefit from having these new high performance grade inserts available to fit them.

The VFX range especially has seen large increases in performance and reliability at extreme widths of cut from 0.7D ~ 1.0D. This has been made possible with the super fine particle carbide substrate of MP9130 that provides extreme toughness without compromising hardness.

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