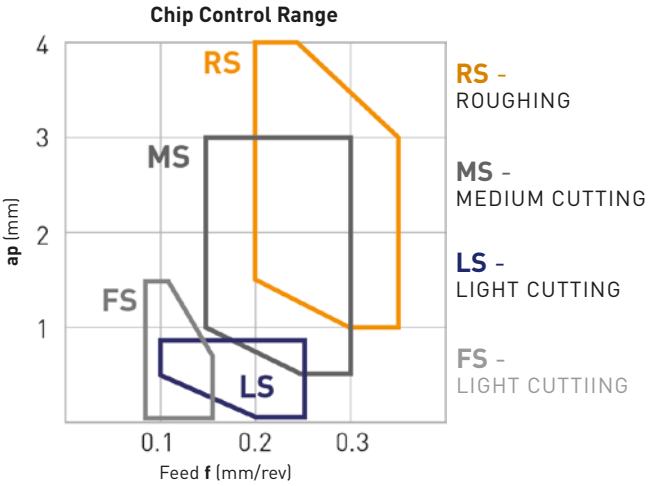
INSERT GRADES FOR DIFFICULT-TO-CUT MATERIALS

To combat the common issue of edge fracturing and insert breakage when turning difficult to cut materials, Mitsubishi Materials has now introduced its latest series of insert grades.

Incorporating the innovative Miracle Sigma Technology, the new MP9005, MP9015, MT9005 and MT9015 insert grades have been introduced with the option of a minus corner radius tolerance. Additionally, the negative rake inserts can be supplied with LS (light cutting), MS (medium cutting) and RS (rough machining) chipbreakers. The positive inserts are equipped with the new FS or FS-P polished chipbreaker, plus LS or LS-P and MS breakers for the multitude of challenges faced in the modern machining world. The new MP9005 and MP9015 grades have a hard wearing cemented carbide substrate with a PVD coating that is layered with an Al rich (Al,Ti)N single layer coating that provides stabilisation of the high hardness phase. This dramatically enhances wear, crater and welding resistance to provide unsurpassed tool life and confidence when confronting prolonged machining periods on extremely testing materials.

The MP9005 Series is an ISO grade (S05) that has been developed for finish machining and is also capable of medium cutting applications. Designated as the first choice for turning operations that demand a high level of wear resistance when machining heat resistant alloys, MP9005 inserts incorporate a positive geometry with the option of Mitsubishi's LS and MS chipbreakers. Suitable for cutting titanium alloys and Ni based heat resistant alloys such as Inconel, Hastelloy and Waspaloy, MP9005 outperforms competitor grades with outstanding tool life and performance levels that can significantly reduce cycle times. As a consequence it also reduces production costs for end users.

MINUS TOLERANCE CORNER RADIUS



For more robust medium to heavy duty machining operations, the MP9015 series has been designated as the general purpose ISO grade (S15). Like MP9005, MP9015 delivers exceptional performance levels on titanium alloys, Inconel, Hastelloy and Waspaloy as well as cobalt based alloys. The tough MP9015 grade can accommodate continuous machining due to its resilient and hard wearing composition, this also significantly reduces the potential for edge breakages and chipping during intermittent machining. Completing the new line-up are the non-coated MT9005 and MT9015 carbide grades, which perfectly complement the two coated grades. The new cemented carbide grades have a sharp cutting edge with excellent wear and fracture resistance for general cutting of titanium alloys. The four new grades have been developed to give the end user complete flexibility with a complete series of insert designations available. The four grades are offered with the option of a CNMG, DNMG, SNMG, TNMG, VNMG, WNMG, CCMT, DCMT, VBMT, VCMT, CCGT, DCGT and VCGT type geometries with a variety of standard and minus tolerance corner radii.