

# Simplified tool selection for difficult materials

The Silmax Colourmill range of solid carbide end mills, have been designed and developed to machine specific materials and are marked clearly with a colour identification band to simplify selection of the correct cutter for the appropriate process. Jemtech UK, based in Uckfield, East Sussex has introduced these cutters to the UK market following its recent appointment as the UK importer for Silmax SpA of Italy.

In developing Colourmill, Silmax recognised that machining of difficult materials, like alloys and super-alloys, particularly stainless steel, super duplex, inconel and titanium was becoming increasingly important. The company's R & D centre near Turin was charged with creating a new range of cutters.

One of the problems to be overcome was the fact that very small differences in cutter geometry and construction make a big difference when machining specific materials but it was very difficult to identify these differences by eye. The solution to this common problem is to use a simple colour system whereby cutters designed for specific



materials are identified by a brightly coloured band at the base of the tool shank. The decision now is simply blue for stainless steels, green for duplex materials, mauve for Inconel and orange for titanium.

Colour coding is not the only innovation though. The Colourmill range makes use of

the latest generation of Nano-Structure carbide to provide a base material having superior hardness and toughness compared with conventional tools. Silmax has also concentrated its efforts on the grinding process to ensure that the geometry and cutting edge deliver the optimum performance.

This geometry also ensures the maximum number of cutting edges (4) is in place to increase productivity compared to conventional cutters. Also, specifically for the HM 017 and HM117 range for milling titanium the cutters are designed with chipbreakers for better swarf clearance. They also offer increased radial and axial cutting depths while at the same time reduce pressure on the cutting edges to improve tool life. Users now have a cutter that is easy to identify and provides a cost-effective, high-performance solution when milling difficult materials.

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## Exhibitor acquires new machine at MACH

ITC gave its new range of PCD cutting tools and the extended range of Hanita tooling a debut at MACH. The new Hanita AluSurf series for aluminium machining received considerable interest from the aerospace market. However, with an emphasis on machining difficult materials such as graphite, metal matrix, composites and Kevlar, the ITC PCD range and the Hanita Hi-Feed series for hardened steels up to 65HRC made the most impact.

The AluSurf, SuperVariMill 2 and the Hi-Feed range of Hanita cutters proved a resounding success with show visitors who work with difficult application areas. The show was also an opportunity for the company to place an order for its second Walter Helicheck machine. ITC is now the only UK cutting tool manufacturer to have two Helicheck machines and with a repeat accuracy on diameter measurements of +0.002mm and +0.003mm on the cutter length, the new acquisition confirms ITC's commitment to cutter quality, repeatability and accuracy levels. ITC's innovative new ranges of cutting tools are

driven by market demand, well illustrated by the remarkably high level of enquiries at the exhibition. The new 2111 and 2102 PCD series end mills have been tailored to meet the needs of the motorsport and aerospace sectors and enquiries at the show reflected this. The new range has already delivered astounding results in the marketplace with productivity improvements, extended tool life and enhanced quality levels all being provided to leading aerospace and F1 manufacturers, something set to expand after a successful MACH exhibition.

With the exception of Hanita and Metal Removal products distributed by ITC, all cutting tools are manufactured at ITC's state of the art grinding shop in Tamworth. Director Peter Graves believes the facility is probably the best equipped in the UK. ITC operates a workshop that boasts a host of new CNC grinding machines. With grinding machines from the acknowledged world leaders such as Walter, Schneberger, Deckel, Rollomatic, and Anca, it's difficult to argue! ITC has invested in computerised optical measuring



equipment to maintain the high standards the company is renowned for and its newly installed centralised oil filtration system guarantees that tool grinding takes place under optimum conditions in clean oil to ensure repetitive accuracy.

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