

NEW END MILLS FOR ALUMINIUM IMPELLER MACHINING

Machining components with difficult to reach areas and curved surfaces has always proven a challenge, especially when cutting materials such as the aluminium alloys used in the aerospace and automotive industries. Such challenges have now been simplified with the arrival of the new C4LATB solid carbide taper-ball end mill from Mitsubishi Materials.

Already recognised as the benchmark in aluminium alloy milling, Mitsubishi Materials has developed the new C4LATB end mills to match the evolution of new tool paths and machining strategies that are being developed by the leading CAM vendors. To support these new developments, the R&D engineers at Mitsubishi Materials have introduced a new 4-flute end mill, the C4LATB with a 4 degree taper flute geometry to alleviate interference and provide extended reach. In addition, the four peripheral flutes are reduced to a 2-flute full ball geometry at the point for improved chip removal. This geometry has also been found to produce much better surface finishes than conventional products when profile milling and mostly negates the need for an extra finishing operation, therefore bringing cost savings.

This radical new geometry makes the C4LATB end mill the complete all-rounder that is suitable for slotting, side milling and profile machining. At present, the C4LATB is available with the choice of a 70mm overall length and a 6mm shank diameter or as a 75mm long tool with an 8mm shank diameter. Both variants have a 20 degree helix and an effective flute length of 20 or 30mm. For intricate machining applications, the new C4LATB is available with a ball nose radius of 0.5mm, 1mm, 1.5mm and 2mm.



This high performance end mill series from Mitsubishi Materials has been developed for applications on high speed, high performance machine tools. The Japanese cutting tool specialists recommend that the C4LATB series is utilised at cutting speeds in the region of 20,000rpm with a feed rate from 600mm/min to 5200mm/min depending upon whether the customer is applying the new C4LATB to side milling, slotting or profiling.

