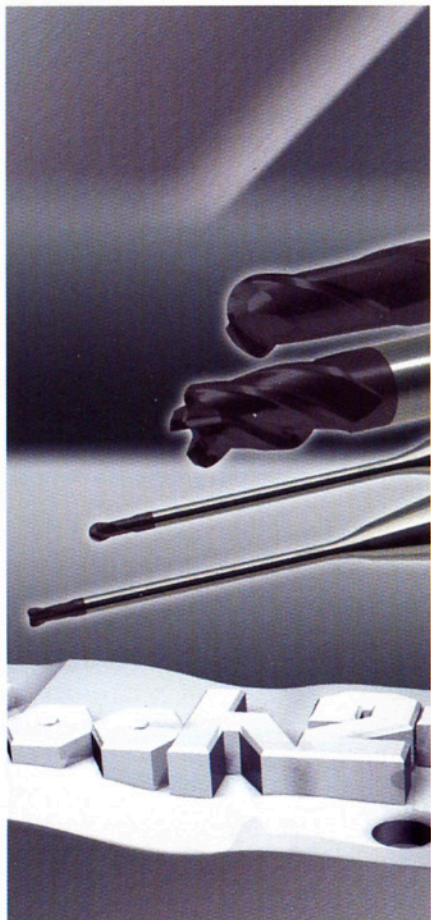


End Mills for High-Speed Graphite Electrode Cutting Feature Close Tolerances, Long Operating Lifetimes



extremely close tool tolerances. Second, the HD (high-adhesion diamond) coating ensures that the onset of abrasion wear is much delayed and then occurs only slowly. This virtually eliminates the risk of exceeding tolerance limits. Thus, users encounter no surprises when manufacturing graphite electrodes: the D-EPDx diamond-coated cutters guarantee slow, controlled abrasion and high surface quality.

Hitachi Tool supplies the high-speed tools as two-edged ball mills in

diameters of 1 to 10 mm and as two-edged torus mills with diameters between 1 and 4 mm. For diameters of 6 to 10 mm, the torus mills are supplied also in a four-edged version.

D-EPDx tools are extremely robust, and their recessed design allows them to be effectively utilized for machining depths as great as 30 times their nominal diameter.

Hitachi Tool Engineering Europe GmbH



HILDEN, GERMANY

www.edme.info/2009/03/005

The D-EPDx line of diamond-coated end mills that Hitachi Tool Engineering Europe GmbH has introduced has been designed to solve a fundamental problem. More and more specialist toolmakers today are switching from heavy copper to significantly lighter graphite in manufacturing electrodes for die-sinking electrical discharge machining because graphite materials enable them to produce larger and more complex electrodes.

However, the advantageous switch to graphite is what introduces the problem. The material's abrasive qualities have left toolmakers unsatisfied with the life expectancy of the tools with which they machine the electrodes. Nor can they easily achieve satisfactory workpiece surfaces.

D-EPDx solid-carbide end mills can be seen to open a new chapter in the development of high-speed cutting operations, for two reasons. First, the thick layer of diamonds is mounted on a specially developed substrate that is ground to an undersize. This ensures

