

## 36-11 Effect of Grinding Fluid Supply on Ultra-smoothness Grinding of Fine Ceramics

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Grinding operation is one of the most effective manners for high smoothness machining of fine ceramics. However, it is difficult to form crack-free high smoothness surface by ductile-mode grinding because of their mechanical properties of high brittleness. To machine the ceramic component of high quality by low productive cost, the high productive ultra-smoothness grinding technique for the fine ceramics has been strongly required. In our previous research, the newly devised ultra-smoothness grinding method is proposed and ascertained to be useful for finishing to near the ultra-smoothness surface. The surface roughness of silicon carbide ceramic and cemented carbide tool formed by the ultra-smoothness grinding method using the #140 diamond wheel is found to attain below 25nm(Rz) or 4nm(Ra), and below 30nm(Rz) or 5nm(Ra), respectively.

This is one of a series of the researches on ultra-smoothness grinding of fine ceramics. In this report, the effect of the grinding fluid supply on ultra-smoothness grinding of silicon carbide ceramic is examined.

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