

## 37 - 9 Ultra-smoothness Grinding of a Glass

### with #140 Metal Bond Diamond Wheel

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Glass is one of the most important materials in the optical industries. The high efficiency ultra-smoothness grinding technique of the glass has been strongly required. To improve the productivity in ultra-smoothness grinding, in our previous researches, the newly devised ultra-smoothness grinding method is proposed. By applying the new method to the horizontal surface grinding<sup>2), 3)</sup>, the surface roughness of cemented carbide tool, silicon carbide ceramic and so on is found to attain below 30nm (Rz) or 5nm (Ra) in the measuring area of 256 $\mu$ m x 256 $\mu$ m. As a result, the new method is ascertained to be useful for finishing near the ultra-smoothness surface. In this report, ultra-smoothness grinding of a glass is examined. The specification of metal bond diamond wheel used is the grain size of #140 and the concentration of 50, respectively. The 3D surface roughness of glass formed using the suitable grinding condition attains about 27nm(Rz) or 1.4nm(Ra).

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