

광정보저장용 광픽업 대물렌즈 성형용 초경합금(Co 0.5%) 초정밀절삭 특성 (I)

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The property of WC(Co 0.5%) Ultra precision turning for optical pick-up objective lens molding press for optical information storing (I)

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Abstract : High-density optical information storing equipment, which is using Blu-ray, is the next generation information storing equipment that has about form six times to thirty-five times capacities. and high-density optical information storing equipment uses high NA(Numerical Aperture) aspheric glass objective lens as optical pick-up equipment to record and recognize high-density data. Generally this objective lens is developed and produced through a way of GMP(Glass Molding Press) that uses molding core that is performed by Ultra precision grinding, but grinding performing that has high-accuracy is very difficult because objective lens form is high NA. In this research, we performed Ultra precision turning, using single crystal diamond bite, about WC(Co 0.5%), sintering brittleness material that is used molding core's material for GMP. and we confirmed aspheric glass lens compression of deformities molding core's Ultra precision turning possibility by measuring surface roughness(Ra) and processing surface's condition.

Key Words : Optical Pick-up, Ultra precision turning, WC(Co 0.5%), NA(Numerical Aperture), Surface Roughness(Ra),