

**La<sub>2</sub>O<sub>3</sub>-CaO-B<sub>2</sub>O<sub>3</sub>계 유리 첨가 알루미나 복합체의 유전특성**

임동하\*, 김현범\*, 신현호\*  
강릉대학교\*

**Microwave dielectric properties of La<sub>2</sub>O<sub>3</sub>-CaO-B<sub>2</sub>O<sub>3</sub> glass-added alumina**

Dong-Ha Lim\*, Hyun-Beom Kim\*, Hyun-Ho Shin\*  
KangNung National University\*

**Abstract**

Influence of La<sub>2</sub>O<sub>3</sub> addition to CaO-B<sub>2</sub>O<sub>3</sub>-based glass on the water leaching resistance of the glass was first investigated. The optimized La<sub>2</sub>O<sub>3</sub>-CaO-B<sub>2</sub>O<sub>3</sub>(LCB) glass was ball milled for varying time, followed by mixing with Al<sub>2</sub>O<sub>3</sub> crystalline phase to form Al<sub>2</sub>O<sub>3</sub>-LCB glass composites at 875 °C for 1h. Microwave dielectric properties of the composites were investigated as a function of the ball milling time of the LCB glass. Dielectric constant and quality factor of the composites were 6.31 and 13856 GHz, respectively, when the LCB glass was ball milled for 2h prior to mixing with Al<sub>2</sub>O<sub>3</sub>.

**Key Words :** La<sub>2</sub>O<sub>3</sub>-CaO-B<sub>2</sub>O<sub>3</sub> glass , dielectric properties, alumina