

La₂O₃-ZnO-B₂O₃계 유리 첨가 알루미나 복합체의 유전특성

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Microwave dielectric properties of La₂O₃-ZnO-B₂O₃ glass-added alumina

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Abstract

Influence of La₂O₃ addition to ZnO-B₂O₃-based glass on the water leaching resistance of the glass was first investigated. The optimized La₂O₃-ZnO-B₂O₃ (LZB) glass was ball milled for varying time, followed by mixing with Al₂O₃ crystalline phase to form Al₂O₃-LZB 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 LZB glass. Dielectric constant and quality factor of the composites were 6.01 and 11676 GHz, respectively, when the LZB glass was ball milled for 2h prior to mixing with Al₂O₃.

Key Words : La₂O₃-ZnO-B₂O₃ glass , dielectric properties, alumina