
Effect of nucleation time and temperature on the crystal growth behavior of lithium disilicate glass-ceramics, their microstructure, and mechanical properties for dental applications

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Abstract

Since lithium disilicate is considered one of the most reliable glass-ceramic materials for dental prostheses, it is very crucial to study the effect of the chemical composition on the crystallization behavior and therefore the microstructure and mechanical properties. Four different compositions in the lithium silicate binary system with varied SiO₂ content of hypo-stoichiometric ~ 60, 63

Keywords: Lithium disilicate, Glass, Nucleation, DSC, Raman

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