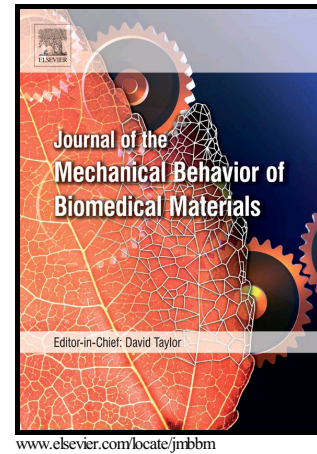


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**Effects of multiple firings on mechanical properties and resin bonding of lithium disilicate glass-ceramic**

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**Abstract*****Objectives:***

This study aimed to evaluate the effects of different firing cycles on surface hardness, fracture toughness, and roughness of lithium disilicate glass-ceramic, as well as their bond strength to resin.

***Materials and Methods:***

A total of 320 polished lithium disilicate glass-ceramic plates were assigned to four main groups (n=60) to receive one, two, three, or four firing cycles, respectively. Ceramic plates of the four groups were conditioned with HF acid followed by silanization. The pre-treated ceramic plates were cemented with composite resin cylinders using conventional or self-adhesive resin cements to build bonded specimens, and submitted to shear-bond-strength (SBS) testing after water storage for 24 h or 3 mo at 37°C. The ceramic received different firing cycles after polishing or HF etching was observed using a scanning electron microscope, and their surface roughnesses were determined by a profilometer. The surface Vickers hardness,

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