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Abstract

[MALLMANN, Andr?/a> et al. Compressive strength of glass ionomer cements using different specimen dimensions. *Braz. oral res.* \[online\]. 2007, vol.21, n.3, pp. 204-208. ISSN 1806-8324. doi: 10.1590/S1806-83242007000300003.](#)

[The purpose of this study was to evaluate the compressive strength of two glass ionomer cements, a conventional one \(Vitro Fil²- DFL\) and a resin-modified material \(Vitro Fil LC²- DFL\), using two test specimen dimensions: One with 6 mm in height and 4 mm in diameter and the other with 12 mm in height and 6 mm in diameter, according to the ISO 7489:1986 specification and the ANSI/ADA Specification No. 66 for Dental Glass Ionomer Cement, respectively. Ten specimens were fabricated with each material and for each size, in a total of 40 specimens. They were stored in distilled water for 24 hours and then subjected to a compressive strength test in a universal testing machine \(EMIC\), at a crosshead speed of 0.5 mm/min. The data were statistically analyzed using the Kruskal-Wallis test \(5%\). Mean compressive strength values \(MPa\) were: 54.00 ?6.6 and 105.10 ?17.3 for the 12 mm x 6 mm sample using Vitro Fil and Vitro Fil LC, respectively, and 46.00 ?3.8 and 91.10 ?8.2 for the 6 mm x 4 mm sample using Vitro Fil and Vitro Fil LC, respectively. The resin-modified glass ionomer cement obtained the best results, irrespective of specimen dimensions. For both glass ionomer materials, the 12 mm x 6 mm matrix led to higher compressive strength results than the 6 mm x 4 mm matrix. A higher variability in results was observed when the glass ionomer cements were used in the larger matrices.](#)




[Keywords : Glass ionomer cements; Compressive strength; Materials testing.](#)

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