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Abstract

[BRANDAO, Letícia](#); [ADABO, Gelson Luis](#); [VAZ, Luís Geraldo](#) and [SAAD, José Roberto Cury](#). Compressive strength and compressive fatigue limit of conventional and high viscosity posterior resin composites. *Braz. oral res.* [online]. 2005, vol.19, n.4, pp. 272-277. ISSN 1806-8324. doi: 10.1590/S1806-83242005000400007.

The purpose of this study was to compare the compressive strengths and compressive fatigue limits of three posterior composite resins (Filtek P-60, Surefil and Prodigy Condensable) and a universal restorative composite (Z-100). Cylindrical specimens (8 mm in length x 4 mm in diameter) were used. The dynamic test was performed using the staircase method, and the ratio between compressive fatigue limit and compressive resistance was also calculated (n = 15). The compressive strength and compressive fatigue limit data were analyzed by Anova and Tukeys test. The Z-100 composite demonstrated higher compression strength (307.20 MPa) than Surefil (266.93 MPa) and Prodigy Condensable (222.08 MPa). The resistance of Filtek P-60 (270.44 MPa) was similar to the resistances of Z-100 and Surefil, while Prodigy Condensable presented the lowest compressive strength. In the compressive fatigue limit tests, Filtek P-60 demonstrated a higher value (184.20 MPa) than Prodigy Condensable (155.50 MPa). Surefil (165.74 MPa) and Z-100 (161.22 MPa) presented limits similar to those of Filtek P-60 and Prodigy Condensable. The compressive fatigue limit/compressive strength ratio was 70.01% for Prodigy Condensable, 68.11% for Filtek P-60, 62.09% for Surefil and 52.48% for Z-100. It was concluded that the Z-100 universal composite was more sensitive to the dynamic test than the high viscosity materials.

Keywords : Composite resins; Physical properties.

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