**Abstract**

The aim of the study was to evaluate the effect of aging through different thermocycling protocols on the flexural strength of a feldspathic ceramic. Fifty ceramic bars, Vitablock Mark II (VITA), with dimensions of 18X4X2mm were prepared. The bars were randomly distributed to the groups (n = 10), which were defined according to the number of thermal cycles (TCy): G0 - no TCy; G500 - 500 cycles of TCy; G6000 - 6000 TCy; G10000 - 10000 TCy; G15000 - 15000 TCy. After aging, the specimens were subjected to the three point bending test in a universal testing machine (EMIC DL 1000), under 0.5mm/min speed and loading of 50kgf, until catastrophic failure. A sample of each group was evaluated for topographic morphology under Scanning Electron Microscopy. For mechanical testing, the following mean values and standard deviation (MPa) were obtained: G0 (99.78 ± 5.07); G500 (101.64 ± 5.59); G6000 (98.13 ± 4.95); G10000 (91.77 ± 9.68); G15000 (101.51 ± 4.22). An analysis of variance by regression equation (p = 0.387) was performed, demonstrating a weak and non-significant correlation between flexural strength and number of thermal cycles. It can be concluded that aging in water solely by different numbers of temperature cycles did not influence on the flexural strength of a feldspathic ceramic.

Key words: material resistance, aging, ceramics.