

ABSTRACT for CONSEURO

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The objective of the present study was to determine the shear bond strength to zirconium oxide ceramic of two ceramic repair systems (one experimental and one commercial) and to determine the influence of the surface preparation methods (Sandblast and Bur) on the shear bond strength of each repair system. M&M: Zirkozahn disk (9 mm diameter, 4 mm height) were divided into sandblasted (110 μm alumina particles for 10 sec, 2,5 bar), and abraded with a green stone-like bur. The specimens in the four groups (n=10) were shear bond strength tested. Data (Mean MPa) were analysed with two-way ANOVA and independent T tests were performed to evaluate differences between materials within each surface treatment and to evaluate the differences between group of the manufacturer's indications, i.e. CRS with the Bur and CR with the sandblast. 3 samples per group were performed to analyse the interface under a Scanning Electron Microscope. Results: There was an interaction between Material and Surface treatment ($p < 0,05$). A significant difference was detected between groups that were sandblasted ($p < 0,05$), (CR sandblasted = 12,69 \pm 6,07 MPa, CRS sandblasted = 4,44 \pm 2,32 MPa) but the bur groups were not statistically different ($p > 0,05$) (CR Bur = 9,2 \pm 5,31 MPa, CRS Bur = 8,8 \pm 3,55 MPa) also the manufacturer's instruction groups were not statistically different ($p > 0,05$). **Conclusions:** According to the results of this in vitro study, abrasion treatment of the ceramic surface for repairing should be performed according to the manufacturer's instructions of the repair system. Work performed at UICOB, I&D unit n^o4062 of FCT.