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[\[PDF \(475K\)\]](#) [\[References\]](#)**Effect of testing methods on the bond strength of resin to zirconia-alumina ceramic: microtensile *versus* shear test**Luiz F. VALANDRO¹⁾, Mutlu ÖZCAN²⁾, Regina AMARAL³⁾, Aleska VANDERLEI³⁾
and Marco A. BOTTINO³⁾

1) Division of Prosthodontics, Department of Restorative Dentistry, Federal University of Santa Maria

2) Clinical Dental Biomaterials, Department of Dentistry and Dental Hygiene, University Medical Center Groningen, University of Groningen

3) Department of Dental Materials and Prosthodontics, São Jose dos Campos Dental School, São Paulo State University, São Jose dos Campos

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Abstract:

This study tested the bond strength of a resin cement to a glass-infiltrated zirconia-alumina ceramic after three conditioning methods and using two test methods (shear-SBS *versus* microtensile-MTBS). Ceramic blocks for MTBS and ceramic disks for SBS were fabricated. Three surface conditioning (SC) methods were evaluated: (1) 110- μm Al_2O_3 +silanization; (2) Chairside silica coating+silanization; (3) Laboratory silica coating+silanization. Following surface conditioning, the resin cement (Panavia F) was bonded to the conditioned ceramics. Although no statistically significant differences ($p=0.1076$) were seen between the test methods, results yielded with the different surface conditioning methods showed statistically significant differences ($p<0.0001$) ($\text{SC}2=\text{SC}3>\text{SC}1$). As for the interaction between the factors, two-way ANOVA showed that it was not statistically significant ($p=0.1443$). MTBS test resulted in predominantly mixed failure (85%), but SBS test resulted in exclusively adhesive failure. On the effects of different surface conditioning methods, chairside and laboratory tribochemical silica coating followed by silanization showed higher bond strength results compared to those of aluminum oxide abrasion and silanization, independent of the test method employed.

Key words:

[Microtensile test](#), [Shear test](#), [Zirconia](#)

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