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Volume Page

Keyword:    [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(357K\)\]](#) [\[References\]](#)***In vitro* evaluation of shear bond strength of veneering ceramics to zirconia**[Zeynep ÖZKURT<sup>1\)</sup>](#), [Ender KAZAZOGLU<sup>1\)</sup>](#) and [Ahmet ÜNAL<sup>2\)</sup>](#)

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**Abstract:**

The bond strength between veneering ceramic and zirconia framework is the weakest link in the layered structure. To investigate the shear bond strength (SBS) of veneering ceramics to zirconia, four types of zirconia ceramics (Zirkonzahn, Cercon, Lava, DC-Zirkon) were selected. For each zirconia system, 30 disk specimens were layered with IPS e.max Ceram, Vita VM9, and a manufacturer-recommended veneering ceramic. SBS test was conducted, and fracture surface analysis was also performed to determine the failure modes. One-way ANOVA, two-way ANOVA, and Tukey's HSD tests were used to analyze the data. On shear bond strength between zirconia and their recommended veneering ceramics, statistically significant differences were observed among the different zirconia systems ( $p < 0.001$ ). DC-Zirkon exhibited the highest SBS value ( $40.49 \pm 8.43$  MPa), followed by Lava ( $27.11 \pm 2.72$  MPa), Zirkonzahn ( $24.46 \pm 3.72$  MPa), and Cercon ( $20.19 \pm 5.12$  MPa). On shear bond strength to IPS e.max Ceram and Vita VM9, significantly lower ( $p < 0.001$ ) were observed for these veneering ceramics than their recommended veneering ceramics for DC-Zirkon and Lava. For Zirkonzahn and Cercon, similar SBS values were observed for all kinds of veneering ceramics ( $p > 0.05$ ). In conclusion, the bonding of manufacturer-recommended veneering ceramic to the zirconia framework differed according to zirconia type.

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