

**Influence of filler level on the bond strength of orthodontic adhesives.**

[Faltermeier A](#), [Rosentritt M](#), [Faltermeier R](#), [Reicheneder C](#), [Müssig D](#).

Department of Orthodontics, University Clinics, University of Regensburg, Regensburg, Germany.  
Andreas.Faltermeier@klinik.uni-regensburg.de

**OBJECTIVE:** To evaluate the effect of different filler contents of orthodontic adhesives on shear bond strength and Adhesive Remnant Index (ARI). **MATERIALS AND METHODS:** Four experimental adhesive groups were created: group 1 was an unfilled urethane-dimethacrylate (UDMA) adhesive, group 2 consisted of UDMA and a filler content of 30 vol%, group 3 consisted of UDMA and a filler content of 50 vol%, and group 4 was manufactured with a filler level of 70 vol% in a UDMA matrix. The embedded filler was silicon dioxide. After etching and priming, stainless steel brackets were bonded to extracted human third molars (n = 60) with the experimental adhesives (15 teeth per group). After storage in distilled water for 72 hours, shear bond strength and ARI scores were evaluated. Kruskal-Wallis and post hoc test were performed for statistical analysis. **RESULTS:** Shear bond strength of UDMA-based adhesives depends on filler content. Higher adhesive filler levels reveal greater bond strength between enamel and stainless steel brackets. ARI scores showed no significant difference among the groups. However, higher filled adhesives (filler content 70 vol%) seem to present higher ARI scores. **CONCLUSION:** Highly filled UDMA adhesives offer greater bond strength than do lower filled or unfilled resins.

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