

## Pengaruh durasi aplikasi asam fosfat 37% terhadap kekuatan geser restorasi resin komposit pada email gigi tetap

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20428986&lokasi=lokal>

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### Abstrak

Phosphoric acid etching has been widely used to achieve a strong and long lasting mechanical bonding between composite resin restoration and tooth structure. The bond strength between the composite resin restoration and the enamel of permanent teeth can be measured by the shear bond strength of the composite resin restoration. The aim of this study was to evaluate the bond strength between the enamel of permanent teeth and the composite resin restoration by measuring the shear bond strength after different durations of etching. In total 27 premolar teeth were divided into 3 groups where the enamel of the buccal surface was etched with 37% phosphoric acid for 5, 15, and 25 seconds; before placing the composite resin restoration. After keeping the teeth inside an incubator for 24 hours, the shear bond strength was measured using a universal testing machine Shimazu AG-5000 at a crosshead speed of 0.5 mm/min. ANOVA was used for statistical analysis of the results, with  $p < 0.05$  assumed to imply significance. The mean shear bond strength after etching for 5, 15, and 25 seconds; was 16.1 MPa, 17.3 MPa and 19.0 MPa, respectively. The results of ANOVA showed significant difference between the 3 groups. However, subsequent Tukey test showed significant difference between 5 and 25 seconds; of etching ( $p < 0.05$ ), but no significant difference between the 5 and 15 seconds; groups nor between the 15 and 25 seconds; groups ( $p > 0.05$ ). Conclusion: Shear bond strength of the composite resin on the permanent teeth enamel increased with increasing etching time. Significant difference was showed between 5 and 25 seconds; of etching time.