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[\[PDF \(842K\)\]](#) [\[References\]](#)**Enamel Bonding of Self-etch and Phosphoric Acid-etch Orthodontic Adhesive Systems**[Shuzo KITAYAMA](#)<sup>1)</sup>, [Toru NIKAIDO](#)<sup>1)</sup>, [Masaomi IKEDA](#)<sup>1)</sup>, [Richard M. FOXTON](#)<sup>2)</sup>  
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**Abstract:**

This study was conducted to examine the shear bond strengths of orthodontic brackets to ground enamel with two self-etching adhesives (Beauty Ortho Bond and Transbond XT) and two phosphoric acid-etching adhesives (Kurasper F and Orthomite Superbond). After the bonded specimens were stored in water at 37°C for 24 hours, they were subjected to thermal cycling (TC) at 0 and 5000 cycles. Then, shear bond test was performed at a crosshead speed of 1 mm/min. Results indicated that the self-etching adhesives did not significantly differ in bond strength before and after TC ( $p > 0.05$ ), while the phosphoric acid-etching adhesives showed a significant reduction after TC ( $p < 0.05$ ). The predominant modes of bracket failure for the self-etching adhesives were at the enamel-resin interface, leaving less than 50% of the adhesive on the enamel surface. It was concluded that the self-etching adhesives exhibited stable bond strength to ground enamel without causing decalcification nor damage to the enamel surface.

**Key words:**



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