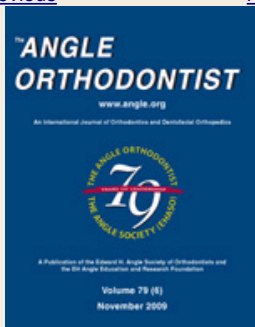


Volume 79, Issue 3
(May 2009)

◀ Previous Article [Volume 79, Issue 3 \(May 2009\)](#) Next Article ▶

< Previous Next >

 [Add to Favorites](#)  [Share Article](#)  [Export Citations](#)  [Track Citations](#)  [Permissions](#)



[Current Issue](#)
[Available Issues](#)

[Full-text](#)

[PDF](#)

Buncha Samruajbenjakul, Boonlert Kukiattrakoon (2009) Shear Bond Strength of Ceramic Brackets with Different Base Designs to Feldspathic Porcelains. The Angle Orthodontist: Vol. 79, No. 3, pp. 571-576.

Original Articles

Shear Bond Strength of Ceramic Brackets with Different Base Designs to Feldspathic Porcelains

Buncha Samruajbenjakul^a and Boonlert Kukiattrakoon^b

Abstract

Objective: To test the hypothesis that there is no difference between the shear bond strengths of different base designs of ceramic brackets bonded to glazed feldspathic porcelains.

Materials and Methods: Forty glazed feldspathic porcelain specimens (15 mm in diameter and 1.5 mm in thickness) were prepared and divided into 4 groups (n = 10). Ten pieces of each group of different ceramic bracket base designs (beads, large round pits, and irregular base) and one group of stainless steel brackets (served as a control) were bonded to glazed feldspathic porcelains under a 200 gram load. Then all samples were subjected to shear bond strength evaluation with a universal testing machine at a crosshead speed of 0.2 mm/min. Data were analyzed through one-way ANOVA and Tukey's HSD test at a .05 significance level. The mode of failure after debonding was examined under a stereoscope.

Results: This study revealed that the beads base design had the greatest shear bond strength (24.7 ± 1.9 MPa) and was significantly different from the large round pits base (21.3 ± 2 MPa), irregular base (19.2 ± 2.0 MPa), and metal mesh base (15.2 ± 2.4 MPa). The beads base design had 100% porcelain-adhesive failure, the large round pits had 100% bracket-adhesive failure, and the irregular base design had 70% combination failure and 30% porcelain-adhesive failure.

Conclusions: The hypothesis is rejected. The various base designs of metal and ceramic brackets influence bond strength to glazed feldspathic porcelain, but all should be clinically acceptable.

Keywords: [Base design](#), [Ceramic bracket](#), [Debonding](#), [Porcelain](#), [Shear bond strength](#)

Accepted: July 2008;

^a Lecturer, Department of Preventive Dentistry, Prince of Songkla University, Songkhla, Thailand.

^b Assistant Professor, Department of Conservative Dentistry, Prince of Songkla University, Songkhla, Thailand.

Corresponding author: Dr Boonlert Kukiattrakoon, Department of Conservative Dentistry, Prince of Songkla University, 15 Kanchanavanich Rd, Hat Yai, Songkhla 90112, Thailand boonlert.k@psu.ac.th



Journal Information

ISSN: 0003-3219

Frequency: Bimonthly

Register for a Profile

Not Yet [Registered?](#)

Benefits of Registration Include:

- A Unique User Profile that will allow you to manage your current subscriptions (including online access)
- The ability to create favorites lists down to the article level
- The ability to customize email alerts to receive specific notifications about the topics you care most about and special offers

[Register Now!](#)

Related Articles

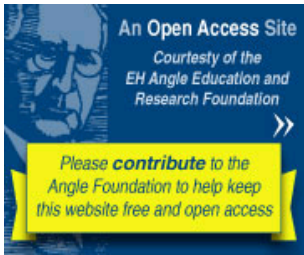
Articles Citing this Article
[Google Scholar](#)

Search for Other Articles By Author

- ☺ Buncha Samruajbenjakul
- ☺ Boonlert Kukiattrakoon

Search in:

☺ Angle Online



top ▲