

Author: [ADVANCED](#)

Volume Page

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

ONLINE ISSN : 1881-1361

PRINT ISSN : 0287-4547

Dental Materials Journal

Vol. 27 (2008) , No. 6 p.821-826

[\[PDF \(432K\)\]](#) [\[References\]](#)**Microtensile bond strength of fiber-reinforced composite with semi-interpenetrating polymer matrix to dentin using various bonding systems**[Arzu TEZVERGIL-MUTLUAY](#)¹⁾, [Lippo V.J. LASSILA](#)¹⁾ and [Pekka K. VALLITTU](#)¹⁾

1) Department of Prosthetic Dentistry and Biomaterials Science, Institute of Dentistry, University of Turku

(Received April 1, 2008)

(Accepted June 10, 2008)

Abstract:

This study investigated the microtensile bond strength (μ TBS) of fiber-reinforced composite (FRC) to dentin using various adhesive systems. Forty eight (n=8/group) human molars were flattened to expose dentin. A layer of preimpregnated unidirectional FRC (everStick) was applied on the dentin surface after treatment with either a single-step self-etching adhesive, two-step self-etching system, or a conventional three-step adhesive system. For the control, particulate filler composite (PFC) (Filtek Z250) layering without FRC was used. After 24-hour water storage at 37°C, the specimens were sectioned, further water-stored at 37°C for 30 days and then tested. Data were analyzed using ANOVA and Tukey's test, and reliability was analyzed with Weibull distribution. μ TBS values differed significantly according to the adhesive material used ($p < 0.05$). Single-step self-etching adhesive showed the lowest bond reliability and μ TBS values with both FRC and PFC, whereas conventional three-step and two-step self-etching systems showed higher bond reliability and μ TBS with both materials.

Key words:[Fiber-reinforced composite](#), [Microtensile bond strength](#), [semi-IPN matrix](#)[\[PDF \(432K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

To cite this article:

Arzu TEZVERGIL-MUTLUAY, Lippo V.J. LASSILA and Pekka K. VALLITTU.
Microtensile bond strength of fiber-reinforced composite with semi-interpenetrating polymer matrix to dentin using various bonding systems . Dent. Mater. J. 2008; 27: 821-826 .

doi:10.4012/dmj.27.821

JOI JST.JSTAGE/dmj/27.821

Copyright (c) 2009 The Japanese Society for Dental Materials and Devices



[Japan Science and Technology Information Aggregator, Electronic](#)

