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ONLINE ISSN : 1881-1361

PRINT ISSN : 0287-4547

Dental Materials Journal

Vol. 25 (2006) , No. 3 p.621-625

[\[Image PDF \(87K\)\]](#) [\[References\]](#)**Shear Bond Strengths of Four Resin Bonding Systems to Two Silica-based Machinable Ceramic Materials**[Kohji KAMAD](#)¹⁾, [Keiichi YOSHIDA](#)¹⁾, [Yohsuke TAIRA](#)¹⁾, [Takashi SAWASE](#)¹⁾ and [Mitsuru ATSUTA](#)¹⁾

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(Received May 11, 2006)

(Accepted July 28, 2006)

Abstract:

The purpose of this study was to evaluate the bond strength between four bonding systems (GC Ceramic Primer and Linkmax HV (CP+LM), Clapearl Bonding Agent and Clapearl DC (CBA+CL), Clearfil Mega Bond Porcelain Bonding kit and Panavia F2.0 (MB+PF), and RelyX Ceramic Primer and RelyX ARC (RC+RA)) and two machinable ceramics (Vitablocs Mark II, VMII and GN-I ceramic block, GNI). Shear bond strength was determined after 24-hour immersion in water or after thermocycling of 20,000 cycles. It was found that the post-thermocycling bond strength of each bonding system to VMII was significantly higher than that to GNI. VMII showed no significant differences between CP+LM, MB+PF, and CBA+CL – the values of which were higher than that of RC+RA. Regarding GNI, CP+LM showed the greatest bond strength after thermocycling among the four bonding systems used. It was concluded that the crystalline phase of the ceramics used might have an effect on bond strength.

Key words:[Machinable ceramic](#), [Bonding system](#), [Shear bond strength](#)



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Kohji KAMAD, Keiichi YOSHIDA, Yohsuke TAIRA, Takashi SAWASE and Mitsuru ATSUTA. Shear Bond Strengths of Four Resin Bonding Systems to Two Silica-based Machinable Ceramic Materials . Dent. Mater. J. 2006; 25: 621-625 .

doi:10.4012/dmj.25.621

JOI JST.JSTAGE/dmj/25.621

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