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ONLINE ISSN : 1881-1361

PRINT ISSN : 0287-4547

Dental Materials Journal

Vol. 28 (2009) , No. 4 p.401-408

[\[PDF \(544K\)\]](#) [\[References\]](#)**Development of dual-curing type experimental composite resin cement for orthodontic bonding –Effect of additional amount of accelerators on the mechanical properties–**[Jun LI](#)¹⁾, [Isao SHIBUYA](#)¹⁾, [Ichiko TESHIMA](#)¹⁾, [Kimiya NEMOTO](#)¹⁾ and [Norihiro NISHIYAMA](#)¹⁾

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(Received September 1, 2008)

(Accepted December 22, 2008)

Abstract:

In this study, a dual-curing type composite resin cement that included a photo-initiator and two accelerators was designed. In particular, special emphasis was made on addressing questions on the effects from different amounts of additional accelerators on the flexural strength of the designed experimental composite resin cement, as well as on the tensile bond strength of the bracket bonded onto the enamel surface by the experimental composite resin cement.

When 0.25 mass% of the *p*-tolydiethanolamine and sodium *p*-toluenesulfinate were added, the maximum flexural strength was obtained for the chemical-cured and dual-cured experimental composite resin cement. The dual-cured experimental composite resin cement's flexural strength value was in the mid-range of the values exhibited from the commercial resin cements. However, the dual-cured experimental composite resin cement exhibited noticeably high tensile bond strength when compared with the results obtained with the commercial resin cements.

Key words:[Resin cement for bracket bonding](#), [Flexural strength](#), [Tensile bond strength of bracket](#)[\[PDF \(544K\)\]](#) [\[References\]](#)

To cite this article:

Jun LI, Isao SHIBUYA, Ichiko TESHIMA, Kimiya NEMOTO and Norihiro NISHIYAMA.
Development of dual-curing type experimental composite resin cement for orthodontic bonding
–Effect of additional amount of accelerators on the mechanical properties– . Dent. Mater. J.
2009; 28: 401-408 .

doi:10.4012/dmj.28.401

JOI JST.JSTAGE/dmj/28.401

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