

Scientific Sheet – In vitro studies

G-CEM LinkAce®

Shear Bond Strength of Auto-mixing Self-adhesive Resin Cements to Zirconia

K. YOSHIDA, K. KAMADA, Y. TAIRA
 J Dent Res 91 (Spec Issue B): Abstract 242, 2012



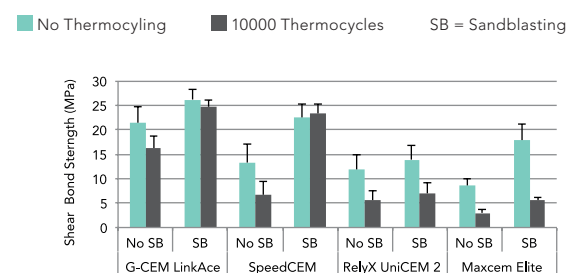
What is being tested?

The shear bond strengths of zirconia (GC) cemented to a composite core build-up with different self-adhesive resin cements: Maxcem Elite (Kerr), SpeedCEM (Ivoclar), RelyX Unicem 2 Automix (3M ESPE), and G-CEM LinkAce (GC).

Clinical Significance

- Alumina-blasting may enhance not only the bond strength but also the durability of adhesion to zirconia.
- When sandblasting is used, G-CEM LinkAce presents significantly higher bond strength to zirconia than Maxcem Elite and RelyX Unicem2 Automix.
- G-CEM LinkAce shows the best bond strength to zirconia when sandblasting is omitted.
- No degradation of adhesion has been observed when sandblasted zirconia was cemented with G-CEM LinkAce.

Bond Strength to Zirconia



Adapted from: K. YOSHIDA et al., J Dent Res 91 (Spec Issue B): Abstract 242, 2012

Effect of Primers on Bonding of Resin Cements to Ceramics

M. IRIE, J.TANAKA, Y. TAMADA, Y. MARUO, G. NISHIGAWA, Y. YAMAMOTO, S. MINAGI, D. WATTS J Dent Res 91 (Spec Issue B): Abstract 1012, 2012



What is being tested?

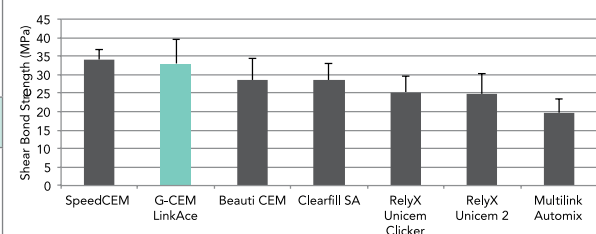
The bond strength of different luting cements to IPS e.Max Press (Ivoclar) using six self-adhesive resin cements: SpeedCEM (Ivoclar), RelyX Unicem 2 Automix & Clicker (3M ESPE), G-CEM LinkAce (GC), BeautiCem SA (Shofu), Clearfil SA Cement (Kuraray) and one adhesive resin-cement: Multilink Automix (Ivoclar), and their respective ceramic primers.

Clinical Significance

- Despite employing a separate bonding system, Multilink Automix showed the lowest bond strength to e.Max.
- Adhesion of G-CEM LinkAce to e.Max was significantly higher than the one of RelyX Unicem 2 (Automix and Clicker), BeautiCEM, Clearfil SA and Multilink Automix.
- G-CEM LinkAce may assure higher retention of indirect restorations made of e.Max.

Bond Strength to e.Max

Pre-treatment with Ceramic Primer



Adapted from: IRIE et al., J Dent Res 91 (Spec Issue B): Abstract 1012, 2012



Bond Durability Of A New Self-adhesive Composite Cement



Y. SUYAMA, M. MORIGAMI, J. SUGIZAKI, S. UNO, T. YAMADA, J. DE MUNCK, B. VAN MEERBEEK J Dent Res 91 (Spec Issue c): Abstract 124, 2012

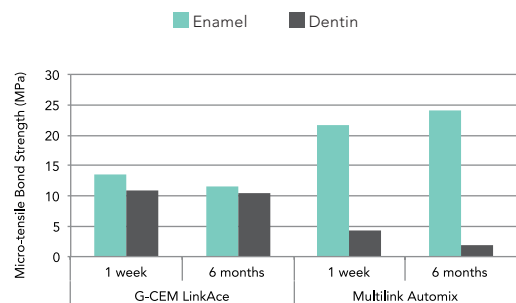
What is being tested?

Bond strength and durability of self-adhesive resin cement G-CEM LinkAce (GC) and adhesive resin cement Multilink Automix (Ivoclar) to enamel and dentin.

Clinical Significance

- Multilink Automix presents significantly higher bond strength to enamel but significantly lower bond strength to dentin.
- G-CEM LinkAce bonds effectively to both enamel and dentin. This means a more balanced result, assuring an efficient adhesion irrespective of the clinical situation.

Bond Strength to Enamel and Dentin



Adapted from: SUYAMA et al. J Dent Res 91 (Spec Issue c): Abstract 124, 2012

In Vitro Wear of Five Cements Against Enamel



M. KYSON, S. KYSON, J. BURGESS, D. CAKIR, P. BECK, L.C. RAMP J Dent Res 92 (Spec Issue A): Abstract 1686, 2013

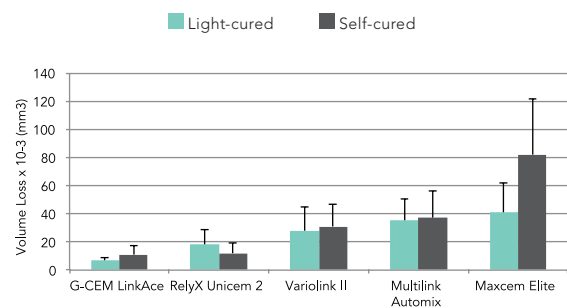
What is being tested?

The 3-body wear resistance of five cements against human enamel cusps, in both self-cure and light-cure modes : G-CEM LinkAce (GC), RelyX Unicem 2 (3M ESPE), Maxcem Elite (Kerr), Variolink II and Multilink (Ivoclar).

Clinical Significance

- Maxcem Elite led to a very high wear when used in self-cure mode.
- G-CEM LinkAce and RelyX Unicem 2 showed the best performance in terms of wear resistance.
- G-CEM LinkAce is suitable option to cement indirect restorations, especially when their margins are located on the occlusal surface.

Wear Resistance



Adapted from: KYSON et al., J Dent Res 92 (Spec Issue A): Abstract 1686, 2013

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