

TECHNICAL UPDATE

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Effect of dentin desensitizers on bond strength on deep dentin.

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Aim: This test compares Hemaseal & Cide to a control - moist dentin, and also to other leading desensitizers.

Materials and Methods: Tensile bond strength of a composite to deep dentin was measured after first applying 5 dentin desensitizers before priming with a bonding agent (Optibond Solo, OS) and then storing under 3 conditions [24 hour storage in distilled water at 37 C for 24 h, 7 d in distilled water at 37 C, and thermo-cycling between 10,50 C for 1000 cycles (TIOOO)]. Dentin specimens (n=8) were prepared from freshly extracted human molars and randomly divided into 18 groups. The teeth were embedded in acrylic resin and ground until deep dentin was exposed. Five desensitizers [Gluma (GL), Health,Dent (HD), Hemaseal & Cide (HC), HurriSeal (HS), Aqua,Prep F (AP), and moisture (CO) as control] were applied after etching but before priming. Composite (Prodigy) was applied and specimens were stored under 3 conditions before testing for tensile bond strength in a testing machine at a crosshead speed of 0.5 mm/min.



Results: Means an analysis of variance. Scheffe's intervals ($p=0.05$) for comparison of agents were 5.6 (CO,GL), 5.7 (CO,HD, HC and HS), and 5.5 MPa (CO,GL). The storage conditions did not affect the bond strengths of OS. Desensitizers GL, HD, and HC at 24 hours, as well as GL and HC after thermocycling, demonstrated increased bonding strengths compared to the control. Products provided by manufacturers.

Conclusions: At seven days, Hemaseal & Cide had the highest bond strength at body temperature. Also, after severe thermocycling, Hemaseal & Cide was one of two to show higher bond strength.



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