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Test Report 4-8-13  
**Bond Strength of a New Bonding Agent**  
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**Purpose:** To compare the bond strength of a new bonding agent with CLEARFIL SE BOND.

**Materials:**

Bonding Agents:

**Experimental Bonding Agent (ExBA)** (BJM Laboratories Ltd.)

**CLEARFIL SE BOND (CSEB)** (Kuraray America)

**Tests:** Ultradent shear bond Strength test

**Substrates:** Superficial dentin and ground enamel

**Replications:** 8 per substrate

**Method:**

**Shear Bond Strength to Dentin:**

Human extracted third molars, previously stored in sodium azide solution, then in saline and then in water were embedded in acrylic resin discs and ground through 600-grit SiC paper to produce bonding substrates of ground enamel and superficial dentin. The bonding agent was applied to the substrate according to the manufacturer's instructions. TPH3 (DENTSPLY Caulk) composite was then placed on top of the bonding agent utilizing the Ultradent shear test mold and jig to produce a 2.38 mm diameter shear test cylinder. The cylinder was light cured while in the mold in accordance with the manufacturer's instructions using the DEMI LED (Kerr Corp.). The prepared specimens were stored in water at 37°C for 24 hours prior to testing. Shear bond strength testing was performed using a universal testing machine (Instron 5866) at a crosshead speed of 1 mm/min. Means and standard deviations of shear bond strength were calculated and are presented in "**Results**" with standard deviation in parentheses and values in MPa.

<b>Results:</b>	<u>Bonding Agent</u>	<u>Dentin</u>	<u>Fail Mode</u>	<u>Enamel</u>	<u>Fail Mode</u>
	ExBA	31.5 (5.9)	100% Adh	21.7 (3.0)	100% Adh
	CSEB	48.7 (5.3)	61% Adh, 39% Co	28.4 (2.4)	100% Adh

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