

## Effects of different bonding agents on shear bond strength of composite to high silver amalgam

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### Abstract

**Background and Aim:** Today, the high silver amalgam has been mentioned because of its appropriate properties so purpose of this study was the evaluation of bond strength of composite to high silver amalgam by using different bonding agents.

**Materials and Methods:** In this experimental study, 52 acrylic cylinders were made and amalgam which contains of 60%Ag were condensed into this cylinders, amalgam surfaces were roughened by diamond bur and all samples were immersed in ultrasonic bath. Then specimens divided into 4 groups of 13 samples: group (1) Amalgam + Alloy primer + single bond, group (2) Amalgam + Alloy primer + G.bond, group (3) Amalgam + single bond +G.bond, group (4) Amalgam + G.bond. Resin composite was bonded to prepared amalgam specimens by using translucent polyethylene mold and cured by LED Turbo and tested by universal testing machine for shear bond strength and finally data were analyzed with one-way analysis of variance and LSD test.

**Result:** In this study, the greatest values of bond strength were related to bonded specimens of use of Alloy primer + G.bond bonding agent and lowest values were related to bonded specimens use of single bond bonding agent and mean shear bond strength in 4 groups had statistically significant difference ( $P=0.002$ ).

**Conclusion:** Combination of alloy primer and G.bond. bonding agent increased the bond strength between composite and high silver amalgam significantly

**Keywords:** Dental amalgam, composite resins, dental bonding agent, Shear strength.