

## Comparison of Bulk fill x-tra base and x-tra fill composites on polymerization levels

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### Abstract

**Background and Aim:** Inadequate polymerization is one of the main causes of composite restoration failure .the aim of this in vitro study was to evaluate the degree of conversion of bulk fill composites through using FTIR.

**Materials and Methods:** in this experimental study ,10 disk shape specimen from each material contain X-tra base (Voco, Germany ) and X-tra fil (Voco, Germany ) composites were made in dimension of 2 mm diameter and 4 mm height . The curing procedure was done by LED Turbo (Apoza, Japan ) with intensity of 800mw/cm<sup>2</sup> for 20 seconds .Then 1mm from the top and 1mm from the base of composite specimen cut with diamond disk and degree of polymerization were evaluated with Fourier transform infrared spectrophotometer (FTIR).The values obtained were analysis by one way ANOVA.

**Results:** Although differences in degree of polymerization of X-tra base and X-tra fil in 1mm of top and bottom of composites were significant(  $p < 0/001$ ) but the mean percentage value of polymerization on top and bottom surfaces for both composites were higher than acceptable range( DC =55%)

**Conclusion:** Based on recent results of this study, polymerization degree of all composites clinically were acceptable. Although degree of polymerization of X-tra fil was lower than X-tra base.

**Key words:** Composite Resins, Polymerization , FTIR