

ABSTRACT**PERBEDAAN KEKUATAN IMPAK RESIN AKRILIK HEAT CURED
DENGAN PENAMBAHAN GLASS FIBER
JENIS ANYAMAN DAN SERAT****(IMPACT STRENGTH DIFFERENCE OF HEAT CURED ACRYLIC RESIN
REINFORCED WITH WOVEN GLASS FIBER
AND CONTINUOUS GLASS FIBER)**

Background. Denture base in dentistry are widely used acrylic resin as material, Ideally, a denture should have sufficient impact strength because high impact pressure may occur when denture falling at the time of denture cleansing or by accident. Glass fiber can be added to acrylic resin in the form of short pieces or embedded in the form of woven or in the form of continuous fibers. The impact strength of a material could be increased by glass fiber depends on the direction of the fiber. There was a different result of impact strength because of the nature of woven glass fiber that isotropic and the nature of continous glass fiber that orthotropic. **Purpose.** The aim of this study was to measure the impact strength difference of heat cured acrylic resin reinforced with woven glass fiber and continuous fiber. **Material and Method.** Woven glass fiber and continuous glass fiber were used to reinforced a conventional heat-curing acrylic resin. Using 6 unreinforced specimens (group 1) and 12 reinforced specimens, 6 with woven glass fiber (group 2) and 6 with continuous fiber (group 3). Impact testing was performed on impact tester type K.R.Y. The data were analyzed with one way ANOVA. **Result.** There was different impact strength of each group. The mean and standard deviation (in kg-cm/cm²) obtained for each group was: 1: 0,617933 /0,272710; 2: 0,718000 /0,0343921; 3: 0,839550 /0,0362045. **Conclusion.** The direction of fiber influenced the values of the impact strength. The reinforcement with woven and continuous glass fiber were significant for improving the impact strength of the material.

Keywords: heat cured acrylic resin, woven glass fiber, continuous glass fiber, impact strength