

## ABSTRAK

Halim, Yosua. 2016. **Pengaruh Temperatur Pemanasan Pada Proses Polimerisasi Resin Akrilik Terhadap Kekuatan Transversa**. Skripsi, Program Studi Sarjana Kedokteran Gigi Fakultas Kedokteran Gigi Universitas Brawijaya. Pembimbing : (1) drg. Kartika Andari Wulan, Sp.Pros (2) drg. Diwya Nugrahini, Sp.Pros

Resin akrilik *cold cured* merupakan bahan umum yang digunakan untuk melakukan reparasi, *relining*, *rebasing*, basis gigi tiruan, serta piranti ortodonti lepasan. Bahan ini memiliki keunggulan yaitu biokompabilitas terhadap jaringan rongga mulut, estetik baik, tidak toksik, tidak larut dalam air, mudah dimanipulasi, perubahan dimensi kecil, tidak memiliki bau dan rasa, stabilitas warna baik, murah dan mudah di dapat. Kekurangan bahan ini adalah mudah patah saat digunakan dalam rongga mulut. Penelitian terdahulu membuktikan temperatur pemanasan berpengaruh terhadap kekuatan mekanis resin akrilik *cold cured*. Hasil dari penelitian tersebut didapatkan bahwa ada pengaruh temperatur pemanasan terhadap kekuatan impak resin akrilik *cold cured* namun pengaruhnya terhadap kekuatan transversa belum diketahui. Penelitian ini dilakukan untuk mengetahui pengaruh variasi temperatur pada proses polimerisasi resin akrilik *cold cured* terhadap kekuatan transversa. Rancangan penelitian ini adalah *post-test only control group design* dengan sampel sejumlah 24 lempeng resin akrilik *cold cured* berukuran 65mm x 10mm x 2,5mm yang terbagi dalam 4 kelompok perlakuan, yaitu kelompok dengan temperatur 20°C, 24°C, 28°C, 32°C. Hasil penelitian didapatkan kekuatan transversa resin akrilik *cold cured* terbesar pada kelompok perlakuan 4 senilai 468,87 Mpa. Kesimpulan dari penelitian ini bahwa terdapat pengaruh suhu terhadap polimerisasi resin akrilik *cold cured* yang signifikan terhadap kekuatan transversa.

Kata kunci : resin akrilik *cold cured*, temperatur, kekuatan transversa

## ABSTRACT

Halim, Yosua. 2016. **The Effect of Heat Temperature During Polimerisation Process On Cold Acrylic Resin Against Transversa Strength**. Final Assignment, School of Dentistry, Faculty of Dentist Brawijaya University. Supervisors : (1) drg. Kartika Andari Wulan, Sp.Pros (2) drg. Diwya Nugrahini, Sp.Pros

Acrylic resins cold cured is a common material used to repair, relining, and rebase denture base, and orthodonti devices. The advantages of this material are biocompatibility with the oral tissues, good aesthetic value, non-toxic, insoluble in water, easily manipulated, minimum changes in dimensions, no odor and no flavor, good color stability, inexpensive and accessible. The disadvantages of this material are easily broken during function in the oral cavity. Research conducted to this study proved the effect of temperature on the mechanical strength possessed by cold cured acrylic resin. Results from this study showed that there was significance effect of temperature during polymerisation process on cold cured acrylic resin's impact strenght but yet known the effect on the transversa strength. This study was conducted to determine the effect of temperature variation in cold cured acrylic resin polymerization towards the transverse strength. The research design was a post-test only control group design with a sample of 24 plate cold cured acrylic resin dimension 65 mm x 10 mm x 2.5 mm, divided into 4 different groups: group with temperature 20°C, 24°C, 28°C, 32°C. The results of this study showed the greatest tranverse strength discovered on group 4 which value was 468,87 Mpa. The conclusion that there were significant effect temperature during polymerisation on transverse strength cold cured acrylic resin.

Keywords : cold cured acrylic resin, temperature, transverse strength