

## Brazilian Oral Research

Print version ISSN 1806-8324

### Abstract

[BOTEGA, Daniela Maffei](#) et al. Polymerization time for a microwave-cured acrylic resin with multiple flasks. *Braz. oral res.* [online]. 2004, vol.18, n.1, pp. 23-28. ISSN 1806-8324. doi: 10.1590/S1806-83242004000100005.

This study aimed at establishing the polymerization time of a microwave-cured acrylic resin (Acron<sup>TM</sup> MC), simultaneously processing 2, 4, and 6 flasks. Required time was measured according to the parameters: monomer release in water, Knoop hardness, and porosity. Samples were made with Acron<sup>TM</sup> MC in different shapes: rectangular (32 x 10 x 2.5 mm) for monomer release and porosity; and half-disc (30 mm in diameter x 4 mm in height) for Knoop hardness. There were four experimental groups (n = 24 per group): G1) one flask (control); G2) two flasks; G3) four flasks, and G4) six flasks. At first, polymerization protocol was similar for all groups (3 min/450 W). Time was then adjusted for G2, G3, and G4, based on monomer release evaluation in the control group, obtained by spectrophotometer Beckman DU-70, with emitting wave of 206 nm. Knoop hardness test was performed using a Shimadzu HMV 2000 hardness tester, and 10 indentations were performed on each specimen's surface. Porosity was assessed after specimens were immersed in black ink and the pores counted in a microscope. Results showed that the complete polymerization of the resin occurred in 4.5 min for two flasks (G2); 8.5 min for four flasks (G3); and 13 min for six flasks (G4), all with 450 W. Statistical analysis revealed that the number of flasks does not interfere with polymerization, Knoop hardness, and porosity of the resin. Results showed that polymerization of microwave-curing resin with more than one flask is a viable procedure, as long as polymerization time is adjusted.

Keywords : Acrylic resins; Microwaves; Polymers; Porosity.

[?abstract in portuguese](#)

[?text in english](#)

[?pdf in english](#)

### services

-  custom services
-  Article in pdf format
-  Article in xml format
-  Article references
-  How to cite this article
-  Access statistics
-  Cited by SciELO
-  Similar in SciELO
-  Automatic translation
-  Show semantic highlights
-  Send this article by e-mail



All the content of the journal, except where otherwise noted, is licensed under a [Creative Commons License](#)

*Sociedade Brasileira de Pesquisa Odontol<sup>g</sup>ica*

Av. Lineu Prestes, 2227  
Caixa Postal 8216  
05508-900 S<sup>o</sup> Paulo SP - Brazil  
Tel./Fax: +55 11 3091-7810



[bor@sbpgo.org.br](mailto:bor@sbpgo.org.br)