

## Brazilian Oral Research

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### Abstract








[FRAGOSO, Wagner Sotero](#); [HENRIQUES, Guilherme Elias Pessanha](#); [CONTRERAS, Edwin Fernando Ruiz](#) and [MESQUITA, Marcelo Ferraz](#). The influence of mold temperature on the fit of cast crowns with commercially pure titanium. *Braz. oral res.* [online]. 2005, vol.19, n.2, pp. 139-143. ISSN 1806-8324. doi: 10.1590/S1806-83242005000200012.

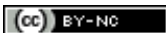
Commercially pure titanium (CP Ti) has been widely applied to fabricate cast devices because of its favorable properties. However, the mold temperature recommended for the manufacture of casts has been considered relatively low, causing inadequate castability and poor marginal fit of cast crowns. This study evaluated and compared the influence of mold temperature (430°C - as control, 550°C, 670°C) on the marginal discrepancies of cast CP Ti crowns. Eight bovine teeth were prepared on a mechanical grinding device and impressions were used to duplicate each tooth and produce eight master dies. Twenty-four crowns were fabricated using CP Ti in three different groups of mold temperature (n = 8): 430°C (as control), 550°C and 670°C. The gap between the crown and the bovine tooth was measured at 50 X magnification with a traveling microscope. The marginal fit values of the cast CP Ti crowns were submitted to the Kruskal-Wallis test (p = 0.03). The 550°C group (95.0 µ) showed significantly better marginal fit than the crowns of the 430°C group (203.4 µ) and 670°C group (213.8 µ). Better marginal fit for cast CP Ti crowns was observed with the mold temperature of 550°C, differing from the 430°C recommended by the manufacturer.

Keywords : Marginal adaptation [Dentistry]; Crowns; Titanium; Dental casting investment.

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