

An Anti-Deformation Method for Barrel Finishing of 12%Au-Ag-Pd Alloy Cast Clasps

Nami MATSUMURA, Masayoshi FURUSAWA, Atsushi OHNO, Takahito SEKINE
Yukio HAYATA, Koji KOBAYASHI, Tetsuo YAMAMORI and Kazuo SEINO

The centrifugal barrel finishing is used to reduce the surface roughness of partial dentures. However, projections such as clasps may be deformed by hard abrasives during barrel finishing.

The purposes of this study were to examine the deformation of clasps by barrel finishing and to devise a method for preventing the clasp deformation. Clasp-shaped 12%Au-Ag-Pd castings were fabricated for the deformation test and the prevention test. Clasp arms were covered with polyvinyl chloride tubes in the prevention test. The displacement of clasp tips was measured with a three-dimensional coordinate measuring machine (UPMC550 CARAT, Carl Zeiss).

The results were as follows :

1. Statistical analysis showed that the displacement of clasp tips had significantly increased by barrel finishing.
2. The displacement was prevented by connecting clasp arms with polyvinyl chloride tubes.

The results suggested that the barrel finishing was a useful method for reducing the surface roughness of removable partial dentures.

Key words : barrel finishing, clasp, deformation, partial denture