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Influence of Centrifugal Force on Filler Loading of Resin Composites

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Abstract:
This study examined the influence of centrifugal force on the filler loading of composites using a light-polymerizing apparatus combined with a centrifuge. To assess uneven filler particle distribution resulting from specimen rotation, two low-viscosity composites (Palfique Estelite LV and Revolution Formula 2) were placed in test tubes, centrifuged, and subsequently light-polymerized with the apparatus. After each specimen was sliced into four disks (2-mm thickness), the inorganic filler content and Knoop hardness number (KHN) of each disk were determined. The results suggested that filler loading of composites could be increased by application of centrifugal force if the filler and monomer components were properly arranged.

Key words:
Centrifugal force, Composite, Light-polymerizing apparatus

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