

Author:  [ADVANCED](#)

Volume Page

Keyword:    [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1881-1361

PRINT ISSN : 0287-4547

**Dental Materials Journal**

Vol. 27 (2008) , No. 6 p.780-786

[\[PDF \(487K\)\]](#) [\[References\]](#)**Influence of abrasive particle size on surface properties of flowable composites**[Eriko TAKANASHI](#)<sup>1)</sup>, [Ryuzo KISHIKAWA](#)<sup>1)</sup>, [Masaomi IKEDA](#)<sup>2)</sup>, [Norimichi INAI](#)<sup>3)</sup>,  
[Masayuki OTSUKI](#)<sup>1)</sup>, [Richard M. FOXTON](#)<sup>4)</sup> and [Junji TAGAMI](#)<sup>1)5)</sup>

1) Cariology and Operative Dentistry, Department of Restorative Sciences, Graduate School, Tokyo Medical and Dental University

2) Tokyo Medical and Dental University Faculty of Dentistry School For Dental Technology

3) Medical Office, Welfare Division, Minister's Secretariat, The Ministry of Agriculture, Forestry and Fisheries of Japan

4) Department of Conservative Dentistry, King's College London Dental Institute at Guy's, King's and St. Thomas'Hospitals, King's College

5) Center of Excellence Program for Frontier Research on Molecular Destruction and Reconstruction of Tooth and Bone, Tokyo Medical and Dental University

(Received January 22, 2008)

(Accepted May 19, 2008)

**Abstract:**

The purpose of this investigation was to measure and compare both the surface roughness and gloss of flowable composites polished with standardized silicone carbide (SiC) papers. Four flowable and two conventional composites were used in this study. Polymerized specimens were subjected to a polishing procedure comprising 12 sequential steps from coarser to finer grits of SiC paper. At the initial polishing stage, flowable composites were more sensitive to the size of the polishing particles and thus yielded surfaces rougher than the conventional composites. Surface roughness became stable when polishing particles less than 13  $\mu\text{m}$  size were used. However, although surface roughness was reduced, an esthetic gloss quality was not achieved on the resultant polished surface. On the influence of filler shape, composites with spherical fillers seemed to have the upper-hand advantage of attaining a high gloss by polishing. On the influence of polishing particle size, it was

suggested that polishing should be completed with polishing particles less than 12  $\mu\text{m}$  size so as to achieve clinically satisfactory surface roughness and gloss.

**Key words:**

[Flowable](#), [Polishing](#), [Particle size](#)

[[PDF \(487K\)](#)] [[References](#)]

Download Meta of Article[[Help](#)]

[RIS](#)

[BibTeX](#)

To cite this article:

Eriko TAKANASHI, Ryuzo KISHIKAWA, Masaomi IKEDA, Norimichi INAI, Masayuki OTSUKI, Richard M. FOXTON and Junji TAGAMI. Influence of abrasive particle size on surface properties of flowable composites . Dent. Mater. J. 2008; 27: 780-786 .

---

doi:10.4012/dmj.27.780

JOI JST.JSTAGE/dmj/27.780

Copyright (c) 2009 The Japanese Society for Dental Materials and Devices



---

[Japan Science and Technology Information Aggregator, Electronic](#)

