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[\[PDF \(343K\)\]](#) [\[References\]](#)**Surface Properties of Resin Composite Materials Relative to Biofilm Formation**[Masahiro ONO](#)¹⁾, [Toru NIKAIDO](#)¹⁾, [Masaomi IKEDA](#)¹⁾, [Susumu IMAI](#)³⁾, [Nobuhiro HANADA](#)³⁾, [Junji TAGAMI](#)¹⁾²⁾ and [Khairul MATIN](#)¹⁾²⁾

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Abstract:

The surface properties of three different resin composite materials which influence *Streptococcus mutans* biofilm formation were evaluated using an artificial mouth system (AMS). Specimens were prepared from Clearfil AP-X, Grandio, and Reactmer Paste, and each material was divided into two groups: (1) surface was ground with 800-grit silicon paper (SiC#800); or (2) surface was polished with up to 1- μ m diamond paste (DP1 μ m). Biofilms were grown on the surface of each specimen for 20 hours, and then subjected to vortex agitation followed by measurement of retained biofilms. Surfaces with retained biofilms were also inspected by SEM. Significant differences were detected in surface roughness (Ra) between the two polishing conditions for all materials. The quantity of retained biofilm was significantly less ($p < 0.05$) on Clearfil AP-X DP 1 μ m than on Clearfil AP-X SiC#800. With Reactmer Paste, their surfaces registered the lowest amount of retained biofilm—but there were no significant differences between the two polishing conditions. In conclusion, polishing did not render all resin composites equally resistant to biofilm formation.

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