PERBEDAAN DERAJAT KEKASARAN PERMUKAAN RESTORASI *NANOCOMPOSITE* DAN *MICROFILLED COMPOSITE*

(THE SURFACE ROUGHNESS DIFFERENCE BETWEEN NANOCOMPOSITE AND MICROFILLED COMPOSITE)

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ABSTRACT

Backgorund. *Surface roughness is one of important things on composite need because it's going to interact plaque retention, aesthetic and color longevity of composite. The composite surface roughness is established by its filler size, shape, hardness ,volume and by its matrix those influence the mechanical property of composite and abration flexibility from polishing and finishing instrument. Microfilled composite and nanocomposite is different on their filler and matrix, because of that, the surface roughness if nanocomposite and microfilled composite is certainly different after finishing and polishing procedure.* ***Purpose.*** *The aim of this study was to understanding the surface roughness difference between nanocomposite and microfilled composite..* ***Method.*** *This research was done in-vitro experiment. Sample was divided into two groups namely group A (nanocomposite) and group (microfilled composit, each group consist of 10 sample. The samples was made from compsoite mould which came from acrylic with 3mm in high and 8 mm in diameter. After that, whole samples was finished by Sof-Lex disc 3M ESPE cuarse and medium type on 30.000 RPM in speed, 50 gram in pressure, and as long as 10 seconds. Then, samples was polished by Sof-Lex disc 3M ESPE fine and superfine type on on 10.000 RPM in speed, 50 gram in pressure, and as long as 10 seconds. After that, samples was stored in incubator 37° for 24 hours. Last, the surface of samples was measured by surface roughness measuring instrument.*
Results. *There were significant difference of surface roughness of nanocomposite and microfilled composite.* ***Conclussion.*** *Surface Roughness of microfilled composite roughness is coarser than nanocomposite.*

Keywords : *surface roughness, nanocomposite, microfilled composite, polishing and finishing.*