

Effect of Polishing and Bleaching on Resin-Composite Roughness after Staining

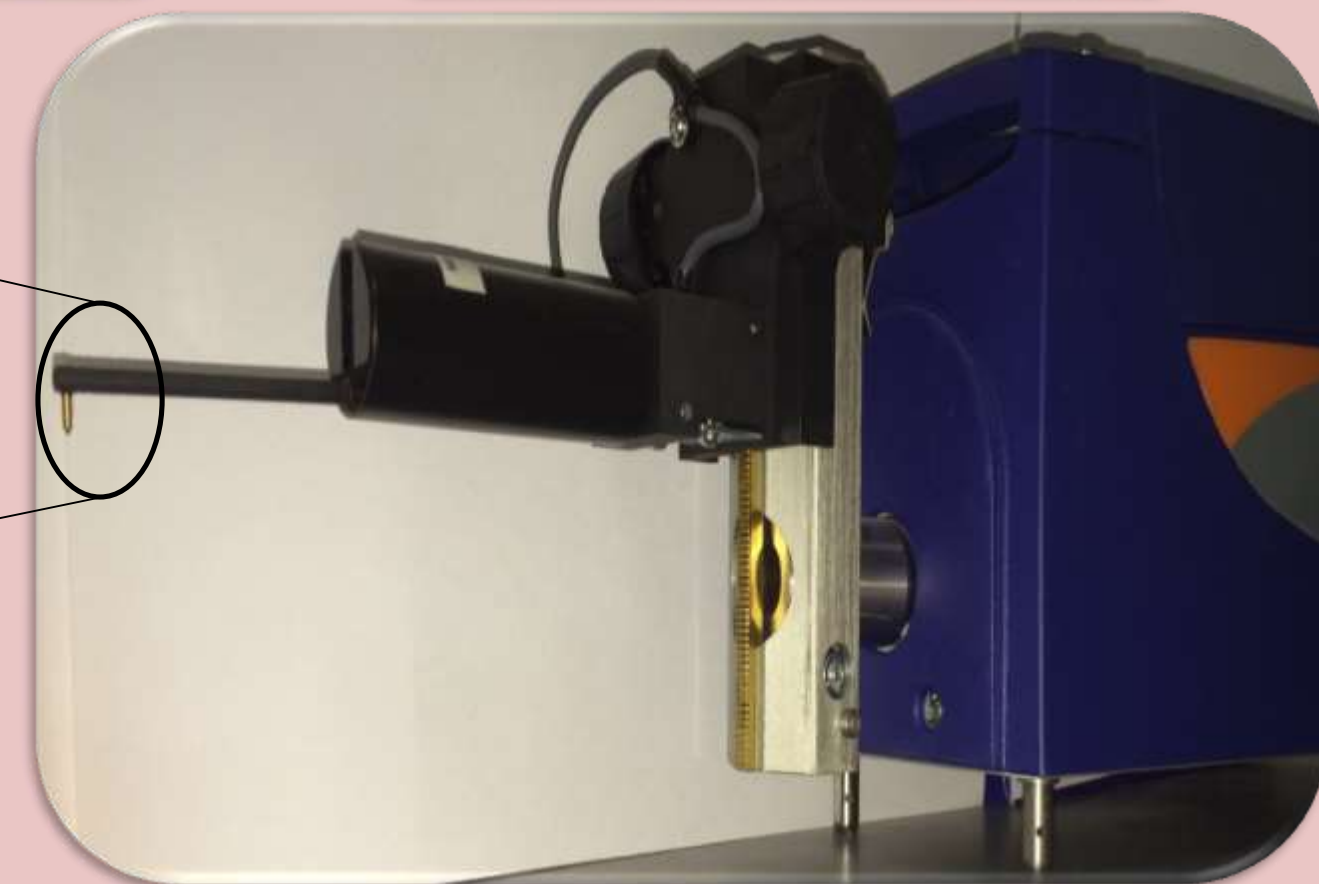
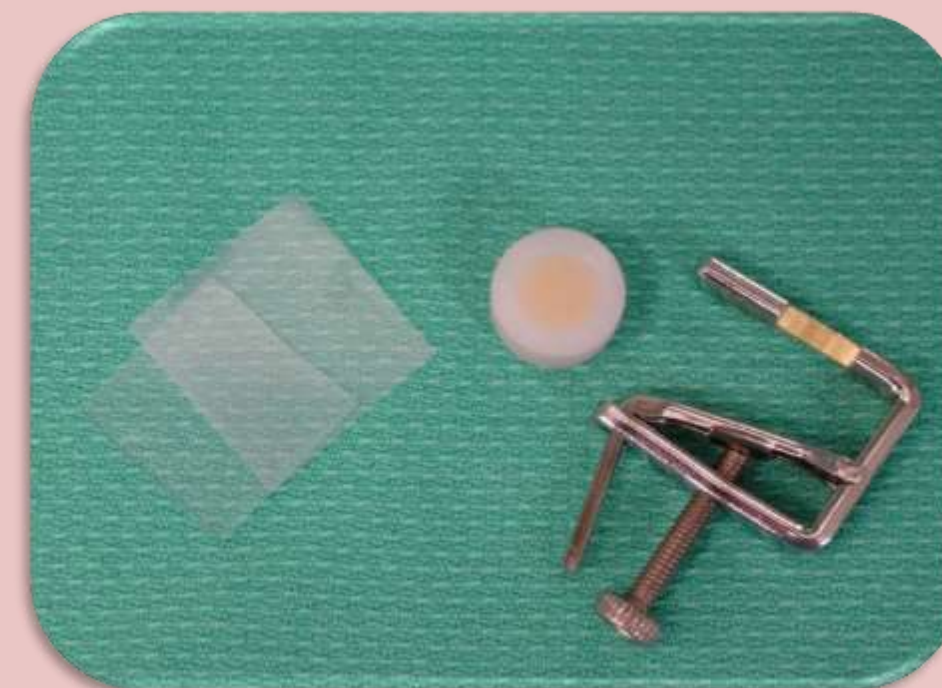
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PURPOSE

To evaluate the effects of OneGloss and PoGo on surface roughness (R_a) of two nanocomposites {Clearfil Majesty Esthetic (CME) and Filtek Z350 XT (FZ)} before and after exposure to a staining and after bleaching {Ultradent Opalescence Boost PF 40% (UOP)}.

METHODS

Specimens were prepared from each resin composite against Mylar strip (Mylar) and finished (Finish), and then R_a was tested after each step. Specimens were polished (Polish 1) with OneGloss or PoGo and stained (Stained) in coffee, and then R_a was tested after each step. Specimens were polished (Polish 2) with OneGloss or PoGo and bleached (Bleach) with UOP, and then R_a was tested after each step.



RESULTS

The R_a of CME and FZ after Polish 1 were **0.08 ± 0.01** and **0.05 ± 0.01** and **0.05 ± 0.01** and **0.03 ± 0.01** respectively. A statistically significant difference was evident between the two resins with FZ having a lower R_a value ($P < .05$). After Staining, both resins that had been polished by PoGo (**0.05 ± 0.01** , **0.03 ± 0.01**) showed a significant difference in R_a with FZ having a lower value ($P < .05$). When CME and FZ were compared after Polish 2, a statistically significant difference between resins was evident for OneGloss and PoGo ($P < .05$). R_a after Bleach showed a significant difference only for the PoGo.

	Clearfil Majesty Esthetic		Filtek Z350 XT	
Mylar	0.04 ± 0.01		0.04 ± 0.02	
Finishing	0.33 ± 0.05		0.36 ± 0.03	
	OneGloss	PoGo	OneGloss	PoGo
Polish 1	0.08 ± 0.01^a	0.05 ± 0.01^b	0.05 ± 0.01^A	0.03 ± 0.01^B
Stained	0.07 ± 0.01	0.05 ± 0.01^c	0.06 ± 0.01	0.03 ± 0.01^C
Polish 2	0.08 ± 0.02^d	0.06 ± 0.01^e	0.04 ± 0.01^D	0.02 ± 0.01^E
Bleach	0.07 ± 0.01	0.06 ± 0.01^f	0.07 ± 0.01	0.04 ± 0.01^F

CONCLUSIONS

PoGo exhibited the smoothest finish for both resins and PoGo polishing was less susceptible to staining. The effectiveness of the finishing/polishing systems was **material dependent**. Repolishing and bleaching influenced CME that had been polished and re-polished with OneGloss or polished by OneGloss and then bleached.