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**Evaluating the color stability of maxillofacial silicones incorporated with nano oxide opacifiers and extrinsic sealant coating following disinfection and outdoor weathering**

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**ABSTRACT:**


**Context:** Color deterioration of pigmented maxillofacial silicones occurs due to UV exposure and disinfection procedures. Literature reveals improvement in color properties after incorporation of nano oxide particles.

**Aims:** The aim of this study was to evaluate the color stability of pigmented maxillofacial silicone reinforced with nano oxide opacifiers and coated with extrinsic sealant following disinfection and outdoor weathering.

**Methods and Material:** 80 Bredent RTV silicone elastomer samples were fabricated. 20 samples were intrinsically and extrinsically colored (Group I). Group II samples were coated with extrinsic sealant, Group III had 2% ZnO opacifier incorporated, and Group IV had 2% ZnO nano particles with extrinsic sealant coat. 0.2% Chlorhexidine and Neutral soap was used for disinfection. The samples were tested for color values before and after Outdoor weathering. RM200QC spectrophotometer was used to determine the CIELAB (L\*a\*b\*) parameter before and after weathering of each specimen. The color change ( $\Delta E$ ) values were analyzed by oneway ANOVA, Post Hoc Scheffe's test, and paired t-test.

**Results:** There are statistically significant differences between each group with respect to  $\Delta E$  values. Group I and III shows statistically significant colour changes while Group II and Group IV shows least statistical changes.

**Conclusions:** The incorporation of Nano particles along with extrinsic sealant coating protected the color from degrading due to UV exposure or disinfection.

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