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## Evaluation of peel bond strength between plexiglas acrylic and maxillofacial silicone using different primers and adhesives

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The aim of the study was to evaluate peel-bond strength between Plexiglas-acrylic and maxillofacial silicone. The 180 degree peel bond strength between maxillofacial silicone A-2186 and plexiglas acrylic was assessed by using three different primers (A-306, A-304) and two different adhesives (A-564, Silastic adhesive type-A). Prefabricated heat cured Plexiglas acrylic was used to bond with maxillofacial silicone A-2186. Specimens were fabricated in metal mold and peel bond strength was evaluated by using universal testing machine. Analysis of specimens was done by One-way ANOVA and Tukey's post hoc test ( $\alpha=0.05$ ). Modes of failure were assessed by SEM images and categorized into cohesive, adhesive and mixed failures. There was significant difference in peel bond strength among all test groups ( $p<0.05$ ). The primer had highest peel bond strength of 4.67 N/mm among primers while the primer A-306 with Silastic adhesive type-A combination showed the highest peel bond strength of 1.93 N/mm among adhesive groups. Modes of bond failure were assessed, by using SEM images. Cohesive failures were mainly recorded, while mixed failures were found with primer A-306 and adhesive failure were commonly seen with primer A-304. Adhesive failures were predominant with adhesive groups. The primer & adhesive combination (A-306 & Silastic medical adhesive type-A) had shown highest bond strengths as compared to remaining test groups. Primer A-306 had significantly enhanced the bond strength for respective adhesive groups. Cohesive failures were seen predominantly with primer. Plexiglas acrylic might be used as an alternative material to conventional acrylic resin due to comparable results with previous studies of prosthodontics

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