

INTISARI

Elastisitas yang baik dan tahan terhadap tekanan mastikasi merupakan keunggulan *silicone soft liner*, namun perbedaan struktur molekuler material *silicone soft liner* dengan basis gigi tiruan menyebabkan *silicone soft liner* cenderung mudah mengelupas. Penelitian ini bertujuan untuk mengkaji pengaruh *surface treatment* etil asetat terhadap kekuatan tarik *silicone soft liner* pada permukaan plat resin akrilik polimerisasi panas.

Penelitian menggunakan 24 sampel plat resin akrilik polimerisasi panas ukuran panjang 35 mm, lebar 5 mm, dan tebal 6 mm yang dipotong pada bagian tengahnya sepanjang 3 mm. Sampel dibagi menjadi kelompok kontrol, kelompok *surface treatment* etil asetat 60 detik, kelompok *surface treatment* etil asetat 90 detik, dan kelompok *surface treatment* etil asetat 120 detik. Sampel selanjutnya diisi *silicone soft liner* pada bagian yang terpotong hingga penuh, kemudian direndam dalam air suling pada suhu 37°C selama 24 jam. Sampel diuji kekuatan tarik menggunakan *Universal Testing Machine* pada kecepatan *crosshead* 5,0 mm/menit. Data hasil pengukuran dianalisis menggunakan uji Anava satu jalur dan dilanjutkan uji LSD dengan tingkat kepercayaan 95%.

Hasil analisis menunjukkan terdapat pengaruh yang bermakna *surface treatment* etil asetat terhadap kekuatan tarik *silicone soft liner* pada permukaan resin akrilik polimerisasi panas ($p < 0,05$). Lama aplikasi *surface treatment* etil asetat dengan waktu 120 detik meningkatkan kekuatan tarik *silicone soft liner* pada permukaan resin akrilik polimerisasi panas.

Kata kunci : *surface treatment*, etil asetat, kekuatan tarik, *silicone soft liner*, resin akrilik polimerisasi panas

ABSTRACT

Silicone soft liner has the advantage of good elasticity and resistance to mastication pressure. However, the difference in the molecular structure between silicone soft liner material and the basis of denture makes it has a tendency to be easy to strip. This research is aimed at identifying the effects of surface treatment of ethyl acetate on tensile strength of silicone soft liner on the surface of heat polymerized acrylic resin.

The research used 24 plate samples of heat polymerized acrylic resin with 35 mm long, 5 mm wide, and 6 mm thick, which were cut 3 mm in the middle. The samples were divided into a control group, a group of surface treatment with ethyl acetate for 60 seconds, a group of surface treatment with ethyl acetate for 90 seconds, and a group of surface treatment with ethyl acetate for 120 seconds. Subsequently, the samples were filled with silicone soft liner in the cut section until they were full, soaked in distilled water at a temperature of 37°C for 24 hours. Sample were measured their tensile strengths using the Universal Testing Machine at a crosshead speed of 5.0 mm/min. Data of the measurement results were analyzed using One-way Anova and LSD test with a 95% confidence level.

The results of analysis indicated that the surface treatment with ethyl acetate had significant effects on the tensile strength of silicone soft liner on the surface of the heat polymerized acrylic resin ($p < 0.05$). The application of the surface treatment with ethyl acetate for 120 seconds increased tensile strength of silicone soft liner on the surface of the heat polymerized acrylic resin.

Keywords: surface treatment, ethyl acetate, tensile strength, silicone soft liner, heat polymerized acrylic resin