

**ANALISIS PENGARUH VARIASI PERSENTASE *HARDENER*
DAN *CLEAR COAT* TERHADAP UJI KEKILAPAN DAN
KEREKATAN HASIL PENGECATAN BODY ABS (*Acrylonitrile
Butadiene Styrene*)**

Faruq Avero Azhar, S.ST., M.Eng sebagai dosen pembimbing

Muhammad Nur Komari
Program Studi Mesin Otomotif

Jurusan Teknik

ABSTRACT

This study aims to analyze the effect of variations in the percentage of clear coat and hardener mixtures on the quality of coating results on ABS (Acrylonitrile Butadiene Styrene) surfaces, particularly in terms of glossiness and adhesion. The method used was an experimental approach with three mixture ratios: 1:6:3, 1:6.5:2.5, and 1:7:2. The coating process was carried out using a spray gun in accordance with ISO 12944-5:2019 standards and dried in an oven at 60°C for 30 minutes. Gloss testing was conducted using a glossmeter based on ASTM D523, while adhesion testing used the cross-cut method based on ASTM D3359 and was analyzed using ImageJ.

The results showed that the highest gloss value was obtained at a ratio of 1:7:2 with an average of 92.23 GU, while the lowest was at a ratio of 1:6:3 with 87.67 GU. In contrast, the best adhesion was achieved at a ratio of 1:6:3 with a defect percentage of 5% (classification 4B), while the lowest adhesion was found at a ratio of 1:7:2 with 17.56% defects (classification 2B). These results indicate an inverse relationship between glossiness and adhesion.

It can be concluded that the variation in clear coat and hardener mixtures significantly affects coating quality. The 1:7:2 ratio is optimal for achieving high gloss, while the 1:6:3 ratio is better for adhesion performance.

Keywords: ImageJ, curing, coating, glossmeter, cross cut

