

***VARIATION ANALYSIS OF THE CUTTING PROCESS PRIOR
TO MULTI STEP POLISHING ON THE THICKNESS AND
GLOSSINESS OF PAINTED STEEL PLATE
COLD ROLLED COILED (SPCC)***

As chief counsellor (Ir. Dicky Adi Tyagita, S.T., M.T.)

Filbert Izdhihar Maulana

Study Program of Automotive Engineering

Department of Engineering

ABSTRACT

Paint surface quality is one of the factors that determines the aesthetic value and overall quality of automotive painting. In the multi-step polishing process, the pre-preparation stage is generally performed by sanding to remove surface defects before polishing. However, this process requires more time and may reduce the thickness of the clear coat. This study aimed to analyze the effect of cutting pre-preparation variations on processing time, glossiness, and paint coating thickness of Steel Plate Cold Rolled Coiled (SPCC). A quantitative experimental method was used by comparing two treatments: sanding with P1000 sandpaper (Panel A) and the use of heavy cut compound red without sanding (Panel B). The results showed that Panel B reduced processing time by 48%, achieved the highest glossiness value of 93.26 GU at a 20° angle, and maintained paint coating thickness better than Panel A. Therefore, heavy cut compound is a more efficient alternative for the pre-preparation stage.

Keywords: *Multi-Step Polishing, Glossiness, SPCC, Duration, Cutting Compound Variations.*