ANALYSIS OF THE INFLUENCE OF ANGLE AND SPACING OF SANDBLASTING ON THE ROUGHNESS AND DURABILITY OF POWDER COATS BY FLUIDIZED BED METHOD ON A36 STEEL MATERIALS

*Comission guide (*Alex Taufiqurrohman Zain, S.Si., M.T.*)*

Yodik Ikbar Ziyadana
Study Program of Automotive Engineering
Majoring of Engineering

ABSTRACT

Powder coating is one of the most commonly used painting techniques. There are quality issues such as adhesion and paint thickness, mainly due to material factors. Therefore, sandblasting is considered a necessary pretreatment before the powder coating process to achieve optimal coating results. This study can determine the effect of angle and distance in the sandblasting process that produces an even layer of powder coating, with variations of sandblasting angles of 75°, 90°, 105° and distances of 10 cm, 20 cm, 30 cm. Conducting roughness testing, the highest roughness level was recorded at a distance of 10 cm with a 90° shot angle, reaching 7.051 µm, and a pull off adhesion value of 1.82 Mpa. While the lowest roughness level occurred at a distance of 30 cm with a shot angle of 105°, only 1,545 µm, and a pull off adhesion value of 0.17 Mpa. The results of the test can be concluded that in the sandblasting process, the closer the distance and the greater the shot angle, the surface roughness level increases and the higher the roughness and thickness of the paint layer, there will be an increase in the adhesion strength of the pull off paint, because the paint not only adheres to the substrate but also to other paint layers.

Keywords : Powder coating, Sandblasting, Angle, Distance.