

**THE EFFECT OF TEMPERATURE AND HOLDING TIME VARIATIONS
ON TEST VALUE OF POWDER COATING LAYER THICKNESS AND
TEST ON MATERIAL ASTM A36 STEEL**

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ABSTRACT

Powder coating is a process of coating using dry paint on a metal surface with a layer of film, then heated for polymerization and preserving the coating. The research method used in this study is experimental analysis to determine the influence of long holding time on the powder coating painting process applied to ASTM A36. The initial treatment process uses the method of sandblasting and degreasing before performing visual tests, thickness tests and tightness tests. (cross cut). The results of this study can be seen visually on powder coating at a temperature of 215 °C which is in holding time for 25 minutes and in holdings time for 35 minutes there is a layer defect in the form of orange peel (orange skin) or still there is an unequal surface. Whereas the largest thickness of the powdercoating layer is obtained at holding times for 15 minutes at 200 °C with an average of 210 μm and the strength of powder Coating is best achieved at holdings times for 35 min at 215 °C with a value of 0% or no area licked.

Keywords: *Powder Coating, Thickness Gauge, Adhesion Test*