Pengaruh Variasi Komposisi *Iron Phosphating* Pada Proses *Pretreatment* Terhadap Laju Korosi Baja *ASTM A36* dengan Aplikasi *Powder Coating*
(*Effect of Variation Iron Phosphating Composition in Pretreatment Process on Corrosion Rate of ASTM A36 Steel with Coating Application*).
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ABSTRACT

"Motorcycle are one of the transportation media that are needed to drive the economy, especially in Indonesia, to meet the needs of the automotive sector, especially the selection of materials, which greatly influences the type of appropriate material. One of them is ASTM A36 steel, this material has strong properties over a long period of time but can corrode over a long period of time. This can be minimized by carrying out restoration, namely using powder coating. The purpose of the study was to analyze the corrosion rate of ASTM A36 steel using powder coating with the addition of variations in the composition of iron phosphating in the pretreatment process. This research method uses experimental research. The object of this research is the corrosion rate and paint thickness of ASTM A36 steel material. The results of the research as well as observations made by researchers are that the least paint thickness value of the three variations of iron phosphating composition is found at a variation of 150 grams/liter with a missing paint thickness value of 4.2 m. The value of the corrosion rate with the least weight loss was found in specimens with a variation of 150 grams/liter with a corrosion rate value of 0.775 mg/dm2day also lost weight of 2 specimens, namely specimen 4 and specimen 6, where the weight loss of each specimen was 1 gram. . By adding iron phosphating composition, it will produce a layer on the surface to be stronger so as to reduce corrosion".

***Keyword* :** *corrosion rate, ASTM A36, powder coating, iron phosphating*