

***The Effect of Painting Methods and Variations in the Number of Bituminous Paint Layers on Corrosion Rates in Four-Wheeled Vehicles Watu Ulo Beach, Jember***

**Muhammad Maulana Bima Anugerah**

*Automotive Engine Study Program, Engineering Department*

*Jember State Polytechnic*

**ABSTRACT**

*Corrosion is a process of destruction or weathering that occurs in materials such as metals due to reactions with the surrounding environment. Usually corrosion occurs when metals react with oxygen in the air or water, forming compounds such as rust on iron metals. The purpose of this study was to determine the effect of mechanical painting methods (air spraygun and electric spraygun) and conventional methods (brush and roller) with variations of 1 and 3 layers using bituminous paint on the corrosion rate, thickness and microphotos in seawater media before and after immersion. Immersion with mechanical and conventional methods obtained very good results with the 3-layer Electric spraygun method because it can prevent corrosion with an average corrosion rate of 4.21 Mpy. Thickness tests based on methods and variations obtained different results, and the least reduction was found in the test specimen with the conventional brush method with 1 layer variation, while the highest results were in the mechanical air spraygun method with 1 layer variation. The mechanical and conventional painting methods on microphotos were very different in terms of structure before and after immersion of the test specimen for 30 days.*

**Keywords:** *Corrosion Rate, Bituminous, Coating.*