

THE EFFECT OF THINNER CONCENTRATION AND BITUMINOUS RATE COATING METHODS ON THE CORROSION RATE AND WEIGHT LOSS OF ST37 STEEL

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ABSTRACT

Corrosion is a process of metal degradation caused by electrochemical reactions whit the surrounding environment, particularly in ST37 steel, which is widely used in the construction and automotive industries. This study aimed to determine the effect of thinner concentration and bituminous anti-corrosion coating methods on the corrosion rate and weight loss of ST37 steel. This research employe dan experimental method using variations of thinner A special and thinner B special with concentrations of 9.1 grams, 18.1 grams, and 27.1 grams in 100 grams of Flinkote paint. The coating process was carried out using mechanical methods (spray gun) and conventional methods (brush). ST37 steel specimens measuring 10cm x 5cm x 2mm were coated with three layers and immersed in seawater for 30 days. Testing was conducted using the weight loss method, corrosion rate calculation, and micrograph observation. The result showed that thinner concentration and coating methods affected the corrosion rate and weight loss of ST37 steel. The mechanical method using a spray gun produced a more unifom coating layer, providing better corrosion protection compared to the brush method. The better the quality of he protective coating, the lower the corrosion rate and weight loss of the specimes.

Keywords : ST37 steel, bituminous, corrosion, corrosion rate, thinner