

*Variation of Adding Hardener to Top Coat Paint on ST 37 Steel Material Painting
on Hardness and Level of Adhesiveness*

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ABSTRACT

This study aims to determine the effect of the value of the hardener mixture with a value of 12%, 14%, 16%, 18% and an oven temperature of 70° C on the level of coating adhesion and hardness. From the results of the layers that have been made, first a thickness test will be carried out with a thickness gauge HW 300S to determine the evenness of the layer, then for the level of adhesion using a scratch tool, namely the cross cut test where this tool has 6 blades with a distance between the blades of 3mm and the test results this is in accordance with the classification from ISO 2409: 2013, the last one was a hardness test using a pencil hardness tester tool. This test relies on pencil hardness from 6B to 6H which is etched at an angle of 45° and a load of 500 grams on the basis of ASTM D3363. From the results of the thickness test there is a slight difference in average where the highest thickness is 183 um with a value of 14% hardener and the lowest is 177.6 um with a value of 12% hardener. The test results for the level of adhesion obtained the highest value ISO class: 0 with a value of 14%, 16%, 18% hardener while the lowest value is with ISO class classification: 1 with a hardener value of 12% and paint and gloss without hardener. The results of the hardness test obtained the highest hardness value 4H with a value of 14%, 16%, 18% hardener and the lowest hardness value is 1 level difference, namely 3H with a value of 12% hardener and paint and gloss without Hardener.

Keywords : hardener, level of adhesion, hardness.