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Marshall Laboratory
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MEMORANDUM REPORT NO. M-453

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MOISTURE BLISTERING OF TRIM & SHUTTER WHITE OVER

PREVIOUSLY PAINTED SURFACE

Since Research Report No. 1069 was written, two additional studies have compared alkyd white and #40 White over previously painted wood on the moisture test house.

In Series 12361 there are three comparisons. The films were aged two months in Florida. Bad blistering occurred with all systems. There is an average difference of -0.2 blister rating units with a 70% probability of chance. This confirms Series 9938 cited in the research report where no significant difference was found between T. & S. White and #40 White on previously painted panels.

In Series 11536, duplicate comparisons have been made for each of two periods of weathering. This study shows a statistically significant difference in favor of the control. For the 1950 test, both blistered but T. & S. White was 1.6 ± 1.1 units worse on the average. In the 1951 test, the control did not blister, and T. & S. White was 1.1 units worse on the average.

This study conflicts with Series 9938 and 12361. Observations on the film integrity of the control explain partly or wholly why the house paint blistered less in this study. The film had broken down by cracking after one year of exposure in Florida. The cracking took place on new wood as well as over previous paint. On the previously painted panels the paint film split longitudinally down to the wood. Although the panels were rated perfect in regard to blistering, they actually had failed by a different process.

The rapid breakdown of the house paint control in this series might be caused (1) by a fluke in making the paint in the laboratory, (2) by application of a very thin film. The panels were not prepared by the panel exposure group, and there was no control of spreading rate.

MARSHALL LABORATORY

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