

GLIDDEN-DURKEE

FROM: Mr. J. V. Patrick

Jan. 8, 1973

FOR: Dr. G. E. Pekarek

CITY: Strongsville, DPJRC

cc → Mr. S. T. Howell
Mr. R. W. Green
Mr. H. E. Carroll
Mr. N. S. Petro
Mr. J. G. Kingston

SUBJECT: STATUS - D.P.R. 2129
REPLACEMENT OF LEAD DRIERS

This report is necessary because of your request and my transfer from this section. The subject D.P.R. authorized work to find replacements for the lead driers used in alkyl modified latex house paints. This report concerns itself with Spred House Paint.

The bulk of the work done on this project is documented in Research Reports TM-104A and TM-105-A, both dated April 25, 1972. Research Report TM-104-A concerns Glidden Latex House Paint while TM-105-A is concerned with Spred House Paint.

Based on work documented in TM-105-A, we selected 2.0 lbs. of E-390, 12% zirconium and 1.5 lbs. of 6% cobalt naphthenate as the drier system throughout the Spred House Paint line. Formulas based on this system have been issued. Since TM-105-A was issued, work has centered around testing the adapted system for loss of dry on shelf aging. Lab tests have shown that the loss of dry experienced in the new system is no where near the loss exhibited by the out-dated lead and manganese system. After 6 months shelf aging, the new system is still slightly better than fresh paints made with the out-dated lead and manganese system. Conventional exposures have shown that the selected drier system has performed equal to the lead/manganese system.

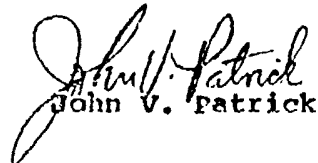
Paints designed to test whether the small amount of drier efficiency loss by the zirconium/cobalt system is due to cobalt or zirconium have been made but have not been tested.

Recommended future testing under this D.P.R. should include an evaluation of 18% zirconium and 12% cobalt systems in the new AC-388 containing Spred House Paint formulas. Tests of individual suppliers is strongly recommended. Our tests indicate that the AC-388 containing paints are not subject to the kick-out described in TM-105-A when 12% cobalt is used.

GLD007124

January 8, 1973

However, further testing is recommended. The fact that the zirconium driers may contain surfactant is a reason for testing individual suppliers. Screening tests have indicated that there are significant differences in supplier samples with respect to efficiency of the higher metal content driers. There have also been indications that 12% zirconium driers being received now are different from the ones researched in TM-105-A. For example, Mooney's 18% zirconium samples were first made by concentrating the 12% driers. Now they are making 18% driers and diluting to get 12% zirconium.


John V. Patrick

JVP/ab

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