Archer-Daniel-Midland 75-5 Oil
87 Line Trim & Trellis

Mr. Stuart Graves, Lab.
Mr. W. F. Singleton, Lab.
Mr. H. F. Ether, Lab.

Philadelphia Laboratory
June 24, 1946

MEMO REPORT #M-62

A-D-M SPECIAL 75-5 OIL
USE IN TRIM & TRELLIS FINISHES

This memorandum will put on record the initial findings in the use of A-D-M Special 75-5 Oil in Trim & Trellis Finishes. Our designation for this material is M-592. It is a 70% solution of A-D-M 75-5 Oil at body S to U. The "DULUX" alkyd resin vehicle of T & T was replaced by A-D-M special 75-5 Oil on a pound for pound basis. 75-5 oil is being promoted by A-D-M as a vehicle for trim paints. As yet nothing is known regarding the durability but our initial work indicates interest from the standpoint of application properties and appearance in trim finishes.

Exterior durability information is being determined by exposure in Delaware, Florida and Texas in series No. 9154. Can stability will be followed in the laboratory.

When A-D-M Special 75-5 Oil is used to replace the resin solids in Trim & Trellis enamels on a pound for pound basis it causes the finish to flow or sag excessively, while the greens exhibit considerable flooding. All colors show a decrease in total solids of 3% to 6% at the recommended viscosity. Skinning in a closed, full can is also in evidence. Elimination of the sagging and flooding in the greens is accomplished by treating the mill base with 3% Soya lecithin solution, while the skinning is corrected by the addition of 0.1% ASA. The result is a finish which is somewhat superior to the alkyd Trim & Trellis in regard to brushing, resistance to sagging and flooding. Although most of the work was done in the color of dark green (87-103) it is believed that the soya lecithin treatment would be just as effective in all colors.

The colors that were made upon A-D-M 75-5 Oil quality are as follows:

Dark Green	87-103	Quaker Brown	87-682
Light Green	87-102	Black	87-683
Jade Green	87-208	White	P-87-P-45997

All the above colors showed a considerable tendency to sag, while the greens showed bad flooding. In the present formula ("DULUX" resin) for dark green, there is 0.3% coconut oil fatty acids (H-226) ground into the mill base to prevent sagging and flooding. This agent proved of no effect in the 75-5 oil type, even when doubled in quantity. The use of 3% soya lecithin solution (VM-7790) finally corrected these faults.

After aging two days in a closed, full container, the 75-5 oil formula formed a complete thin skin; this can be prevented by the addition of 0.1% ASA to the formula.

Notebook reference - Notebook #3100.

PHILADELPHIA LABORATORY

George J. Hockel

GEORGE J. HOCKEL

GJH/mhl