

Cross Index:

Goodyear Tire & Rubber Co.
Emulsion Paints

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"INDEXED" Mr 4'53

Philadelphia Laboratory
November 22, 1949

MEMORANDUM REPORT #M-274:

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GOODYEAR LATEX WATER PAINTS NOT FOR CIRCULATION

On November 17th Mr. John Bear of the Goodyear Tire & Rubber Company visited this laboratory to discuss the recent developments of latices in water paints. Goodyear recommends using their "Chemigum" 101-A (a butadiene - styrene copolymer) as the film former in emulsion paints. This latex may be modified with the Goodyear "Pliclite" type latices (copolymers of butadiene and styrene, higher in styrene content) to improve the hardness of the finished paint. The price of these various latices is the same, namely 38¢/lb. or the solids.

Literature describing the properties and application of "Chemigum" 101-A to emulsion paints was distributed. The paint formulations disclosed therein were discussed.

The prime pigment used was a rutile titanium dioxide, also included was a lithopone to demonstrate its compatibility in the system. The extender was of the mica type. The pigmentation isn't necessarily restricted to these materials; however, it should be kept in mind to select pigments containing a minimum of soluble metallic salts to prevent coagulation of the latex.

Foaming during brushing can be reduced by the use of pine oil, octyl alcohol or other anti-foam agents. Alpha protein or a casein solution acts as the protective colloid and also improves brushing.

A sequestering agent such as tetrabutyl phosphate is incorporated to promote latex stability and prevent pigment flocculation. A wetting agent such as "Darvan #1" is also employed.

This latex vehicle type of formulation lends itself well to present paint making equipment, a short grind in a pebble mill or high speed agitation is sufficient to insure adequate dispersion.

The question of poor adhesion and consequent peeling of latex formulations was raised. Mr. Bear replied that he had not encountered it, but that the possibility exists.

Panels to show the improved wet erosion resistance of this latex film compared to conventional flat emulsions were exhibited. Their claim is similar to the Glidden Company's for "Spred Satin", which we believe to be made from this type of latex.

Mr. Bear stated that the Goodyear Company is actively investigating measures to improve the freeze - thaw stability of latices. They will inform us when these improved latices are available. In the meantime, samples of "Chemigum" 101-A and available "Pliolite" type latices will be transmitted to the laboratory.

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