

CROSS REFERENCES:

Emulsion Paint
Speed Easy
Protein Free Emulsion Paint

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Philadelphia Laboratory
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MEMORANDUM REPORT NO. M-206

"GELVATEX" EMULSION PAINT - WHITE

The subject material was submitted to us for evaluation by Canadian Industries, Ltd. The product uses Gelvatex B-40 as the binder. Gelvatex is the name for a polyvinyl acetate emulsion made by the Shawinigan Chemicals, Ltd. Shawinigan claims that the Gelvatex paints are odor free, can be recoated in several hours and have superior adhesion and wet erosion resistance. Since the Gelvatex paint is a flat paint, Speed Easy was used as the control for this evaluation.

SUMMARY:

The Gelvatex emulsion paint has poor brushing properties and only fair hiding. The wet erosion resistance is superior to Speed Easy, but no better than our proposed improved Speed Easy. The drying characteristics are satisfactory.

EXPERIMENTAL DESCRIPTION:

Brushing: The material is packaged as soft thixotropic paste to be reduced 25% by volume with water for brushing. Over porous or sealed surfaces the material wets easily, but set-up is too fast to permit proper leveling or spreading. Piling at the laps is very objectionable. Brush cleaning is good if cleaned shortly after using. If the paint is allowed to set up in the brush for more than 15 minutes a solvent rinse is required.

Recoating: The material, when applied over glossy and non-glossy pearl board, can be satisfactorily recoated in two hours. The same results were obtained with Speed Easy.

Odor: The Gelvatex paint is not odor free, although the existing odor is not unpleasant. The odor is somewhat like that of fresh putty. Current production of Speed Easy has the characteristic pine oil ammonia odor to about the same degree. The Speed Easy odor is also considered not objectionable.

Hiding: A qualitative hiding comparison versus Speed Easy shows the Gelvatex to be only fair in this respect. Good hiding should result from this formula because it contains 4.67# TiO_2 /gallon.

Color: The initial color is equal to that of Speed Easy. Color retention (based on panels one month old) is also equal to that of Speed Easy. Exposure Series 9912 has been prepared to obtain additional data.

Wet Erosion Resistance: The reduced material was applied over standard sand-blasted glass panels. After 5 days air dry the panels were tested for wet erosion resistance in the Gardner K-105 Abrasability Machine. The table below shows the number of strokes before failure:

Gelvatex	700 strokes
Wesac Speed Easy	10 "
Standard Speed Easy	120 "
Improved Speed Easy	800 "

Dry: In all drying characteristics the Gelvatex paint compares favorably to other flat wall emulsion paints included in this evaluation.

CONCLUSIONS:

The Gelva type polymer emulsified in the presence of water soluble gum such as methyl cellulose or carboxymethyl cellulose has general properties similar to protein free emulsion paints previously investigated. These are characterized by good water resistance, but poor brushing properties. The brushing of these paints can be improved by the addition of a polar (soap) type wetting agent. However, a loss of water resistance results. In the subject sample which is emulsified with carboxymethyl cellulose an improvement in brushing would probably result from the addition of such materials as Duponol NE, mono ethanol amine oleate or ammonium laurate. Water resistance could be lowered to about 50% of its present value and still be considered satisfactory. Thus it appears from this evaluation that the Gelva type resin, in a comparable latex vehicle, has no advantages over a conventional alkyl ketone paint. However, vinyl type resins are being studied further in connection with the study of emulsion type first coats for two coat-a-day refinishing systems.

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