PROJECT REPORT

LOCATION: 50-871
(Garland, TX)

BUSINESS CONFIDENTIAL

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EVALUATION OF GLASS RE-ENFORCEMENT FILLERS IN LATEX HIGH-BUILD COATINGS

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PLAINTIFF'S EXHIBIT
UC-872

SUMMARY As a result of current OSHA regulations on asbestos-fiber handling precautions, manufacturers of latex high-build coatings and mastics have expressed interest in suggested formulations with alternate re-enforcement fillers. This current study has established a good procedure for the incorporation of two Owens Corning Fiberglas products; namely: 1/64 inch Flaked glass and 1/2 inch Chopped glass (with 10% contained water), in UCAR Latex 154 based coatings designed to protect urethane foam insulation and in general for weather-barrier roof protection.

Test results showed excellent resistance to shrinkage cracking of high-build films, good adhesion to rigid urethane foam; plus excellent adhesion to wood, aluminum and steel at 200 to 300 percent elongation (72°-75°F). This data will be presented to several specialty-coatings accounts in the Southwest market area.

INTRODUCTION OSHA regulations on the safe plant-handling of asbestos-fibers re-enforcement fillers have brought about an increased awareness in alternate fillers to use in high-build coatings and mastics. Several months ago three grades of chopped fiberglass from the Owens Corning Fiberglas Corporation (OCF) had been evaluated at our Garland, Texas technical service laboratory in high-build (68 percent solids by weight) latex coatings.

All showed difficulty with good dispersion in the "let-down" portion in low-speed high-shear mixing equipment, but other film properties proved to be favorable. A report was written for general distribution.

Discussions with Mr. Harold Hagmeier at OCF Dallas Sales Office (214/233-9241) led to the evaluation in the current reported study; of their 1/64 inch Flake glass and a 1/2 inch Chopped "Fiberglas" (the latter containing ten percent contained water).

DISCUSSION This time, the pigments were dispersed in a disc-type high-speed disperser operated at half-speed during addition of the glass re-enforcement fillers. It is important not to crush the glass particles more than necessary, and the slower speed also inhibits air entrainment in the final high-solids product.

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COATINGS MATERIALS

TABLE 1

SUMMARY OF TEST RESULTS ON GLASS RE-ENFORCEMENTS
IN UCAR LATEX 154 HIGH-BUILD COATINGS

Ref: 9JG-74

PROPERTIES TESTED	A	B	C
Type "OCF" Glass-Filler Used	Flake Glass	Flake Glass	Chopped Glass
Re-enforcement Levels	10 lbs	15 lbs	10 lbs
Consistency (KU)	107	79	103
pH	6.9	6.7	6.7
85° Angular Sheen	8	6	10
Dry-Film Appearance	Smooth Soft	Smooth Soft	Orange Peel Soft
% Elongation	295	225	265
Tensile Strength (psi)	67.3	66.1	82.7
*180° Peel Strength (lbs/inch)			
Pinewood	16.0 (C)	13.1 (AC)	16.4 (C)
Aluminum	15.5 (AC)	13.5 (CA)	13.3 (CA)
C. R. Steel	14.5 (C)	10.0 (C)	11.0 (C)
Rigid Urethane Foam with skin	4.8 (A)	2.9 (A)	5.4 (A)
Shrinkage (1/4" Thick Film)	← All were excellent →		
Flexibility (0°F) (1/16" Dry Film Thickness)	← All passed 1-inch diameter rod →		
120°F Stability (3 weeks)	Okay	Okay	Okay
Freeze/Thaw Stability (0°F)	Poor	Poor	Poor
Flame Retardance			
To Burning Embers	Good	Good	Good
To Sustained Gas Flame	← All show continued slow burning →		

*180° Peel Legend: (C) = Cohesive Failure (CA) = Mostly Cohesive Failure
(A) = Adhesive Failure (AC) = Mostly Adhesive Failure

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TABLE II

HIGH-BUILD FLEXIBLE TEST COATINGS

REF: 9JG-74

CHARGE FOLLOWING AT MIXER HALF-SPEED	A	B	C
UCAR LATEX 154	550.0	550.0	550.0
"NALCO" 2300 DEFOAMER	1.0	1.0	1.0
POTASSIUM TRIPOLYPHOSPHATE	1.0	1.0	1.0
TERGITOL NP-40 (70AQ)	3.0	3.0	3.0
"MINERALITE" MICA 3X	145.0	145.0	145.0
AMMONIUM BENZOATE	1.0	1.0	1.0
TI-PURE R 901	15.0	15.0	15.0
OCF-1/64" FLAKE GLASS	10.0	15.0	-
OCF-1/2" CHOPPED "FIBERGLAS"	-	-	-
"KINGSLEY" CLAY	45.0	45.0	45.0
"UNICLOR" 40	25.0	25.0	25.0
ANTIMONY OXIDE	5.0	5.0	5.0
TRICRESYL PHOSPHATE	63.0	63.0	63.0
"COSAN" PMA-30	2.0	2.0	2.0
WATER	20.0	20.0	20.0
"DICALITE" WB-5	70.0	70.0	70.0
	DISPERSE 20 MINUTES AT HALF-SPEED, THEN CONTINUE AT SLOWER SPEED:		
WATER	38.0	38.5	68.0
UCAR LATEX 154	78.0	78.0	78.0
28% AMMONIUM HYDROXIDE	2.0	1.5	2.0
"NALCO" 2303	3.0	3.0	3.0
WATER	30.0	30.0	-
	1118.0	1123.0	1118.0

PHYSICAL CHARACTERISTICS

PVC	23.5%
TOTAL SOLIDS BY WT.	69%
APROX. YIELD	102 gallons
APROX. RMC/GALLON	$3.75

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Dr Miller - Halloway File Cabinets

File: Regulatory Changes ~~Concerning~~ Latex Operations

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