CALIDRIA ASBESTOS FOR LATEX PAINTS

STATUS AND POSITION

(6-23-71)

Work on utilizing Calidria Asbestos in latex paint was begun over two years ago by Major Paint and Varnish Company with the close cooperation of Jennat Corporation. CG-135-Pellets are now being used in a premium quality paint (A-1 Acrycite) with a higher than normal TiO_2 content (5 lbs./gal.). This is the first and only latex paint on the market to provide 100% hide with one coat. It is an interior/exterior paint which has several other advantages and no serious drawbacks with regard to paint properties. Major expects to use 90,000 pounds of CG-135-P this year in their A-1 line and their goal is to use it in as many other lines as possible. Usage in 1972 should be at least 200,000 lbs. and could be several times higher depending on acceptance in lower quality paints.

Major is not a typical paint company, their R&D and production are both guided by VP Milt Golden. He apparently has been personally "sold" on the merits of asbestos in general and "Calidria" in particular. Some feel that he is using CG-135-P only to support his initial evaluation of it. His sales of paint and usage of CG-135 during the next 6-12 months should clarify this.

Major prepares a separate asbestos slurry with high shear mixing equipment and runs their finished A-1 paint through a pressure filter. These techniques and equipment are costly and may be unacceptable to the industry in general. Major also believes they can utilize only CG-135. Since we have recently prepared acceptable paints in our laboratory without resorting to these techniques and with products other than CG-135, we do not feel that these are restricting factors.

Group I R&D has basically agreed that Major's A-1 paint has definite advantages but they have not duplicated the paint. We have been unable to fund any effort on their part and do not foresee any possibility of this in the near future. Group I has expressed concern over the possible loss of Cellosize business because of the thickening effect imparted by asbestos. Although the use of cellulosic thickener might eventually be reduced 20-30%, we feel

there would remain a definite advantage to UCC and a place for both products. The following table, admittedly a cursory evaluation, summarizes the above:

	Per 100 Gallons Paint		
		Combination	
	All HEC	HEC	CG-135
Quantity, lbs.	5	4	25
Price, ¢/lb.	74	74	20
NIFS, $	3.70	2.96	5.00
Gross Margin, ¢/lb.	40	40	7.9
Gross Margin, $	2.00	1.60	1.98
		.....	
		..	
		$3.58	

UCC does not have all the cellulosic thickener market and the successful introduction of a CG product could actually assist Cellosize penetration.

Our work in Niagara Falls under the direction of R. E. Byrne has been limited and we are obviously not "paint experts". We have found, however, that comparable paint can be made:

1) With either CG-100 or CG-135

2) With conventional pigment grinding or with the pre-slurry technique

This paint can have higher opacity at the same cost or the same opacity at reduced cost. The paint can be made with typical properties at a standard 2.5 lb./gal. TiO_2 level using "conventional" equipment and procedures.

The formulations for two Niagara Falls paints, and their properties compared to Major's A-1 paint, are shown in Tables I and II respectively.

Admittedly, there are numerous parameters which have not been examined, including other cellulosic thickeners, other pH levels, other types of latex, other TiO_2 levels, other basic formulations, weathering data, etc. Several years and many thousands of dollars spent within UCC could prove or disprove our "concept" that Calidria CG has an application in latex paints but we do not have the funds or inclination to follow this approach.

We do not feel that the evaluation of our "concept" must be made by UCC or by just one or two paint companies. We propose that sales aids be prepared as rapidly as possible and that we start presenting the "concept" at the earliest opportunity to all significant paint companies, paint research groups, and other interested parties. This can be done either through Group I, with Group I, by the Calidria marketing group separately, or through distributors. We feel that the most effective approach in the U.S. would be to have Calidria personnel make calls with the appropriate Group I C&A salesman at each account. We would be glad to make a concerted effort with Group I at one company such as PPG but don't wish to limit contacts to just this company. In Canada, we should involve H&C; in Japan, Tomoe has already started sampling and has placed their first order for 4,000 pounds of CG-135 Open Fiber; in South America, we have initiated contracts with UCIA; in Europe, we would have to develop a marketing approach.

Any literature or presentation would have to be prefaced with three basic statements:

1) This is primarily a "concept" based on limited data and experience.

2) UCC can provide little or no additional technology except for a modest amount that may be generated at Niagara Falls and which will be passed on as generated.

3) No technology or technical service are available from Group I; all such requests to be routed to Calidria personnel.

Sales aids will include written information describing the "concept", lab procedures and lab results; draw-downs; formulations, and wet samples of high and low TiO_2 paint.

In Niagara Falls, we will continue to spend available time on exploring new parameters of formulations and dispersing techniques.

John L. Myers
Marketing Manager
CALIDRIA Asbestos
6-25-71

TABLE I

INTERIOR LATEX PAINT FORMULATION

(lbs/100 gal)

Ingredient	Standard	W/CG-100	W/CG-135
Water	269	269	269
Cellosize, QP-4400	5	4	4
Tergitol NPX	3	3	3
Tamol 850	4	4	4
Lecithin	1	1	1
Ethylene Glycol	20	20	20
Butyl Carbitol Acetate	15	15	15
Nopco NXZ	1	1	1
TiO_2 (Du Pont R-960)	250	230	220
ASP-170	75	75	75
Camel-Tex	155	155	155
CG-100	0	20	0
CG-135	0	0	30
Water	150	150	150
Aerosol OT	2.3	2.3	2.3
Nopco NXZ	2	2	2
UCAR Latex 360	243	243	243
*Raw Material Cost Difference, ¢/gal	---	-4.8	-3.1

*@ 28¢/# for TiO_2, 74¢/# for Cellosize, 7 1/2¢/# for CG-100 and 20¢/# for CG-135

TABLE II

TEST RESULTS OF PAINT FROM TABLE I

(Tests Conducted at Jennat Corp., Torrance)

Physical Properties	Standard	W/CG-100	W/CG-135	Major's A-1
TiO_2, lbs./100 gal.	250	230	220	500
Total Solids, %	53.73	53.87	53.72	65.48
Viscosity, KU	91	93	95	86
Freeze-Thaw	Passed	Passed	Passed	Passed
Hegmann (NF Data)	5.0	5.5	5.5	---
Paint Film Properties				
Reflectance	92.0	91.5	91.5	86.0
Contrast - Dry	.9670	.9670	.9730	1.000
- Wet	.9600	.9657	.9600	1.000
- Diff.	.0070	.0013	.0130	0
Enamel Holdout (60° Gloss)				
Room Temperature	76	75	70	75 (Avg.)
38°F	68	66	63	52 (Avg.)
Scrub, 7-day air dry				
Total Cycles	1000	1000	1000	1000
Initial Wear, Cycles	403	400	256	975 (Avg.)
% Wear	90	50	90	4 (Avg.)
Color Acceptance	Exc.	Exc.	Exc.	---
Application Properties*				
Foaming	5	8	2	20
Framing	15	15	15	5
Lapping	10	10	10	8
Touch-Up	15	10	15	10
Brushability	10	10	10	10
Levelling, Visual	5	10	5	20
Sheen Unif.	10	15	10	10
Burnish Resis.	10	10	10	10
Wet Crack Resis.	8	10	15	10
H_2O Spot Resis.	5	10	10	20
TOTALS	93	108	102	124

*Rated on 1-20 scale with 20 = excellent