

December 8, 1967
NEW FORMULA

PLAINTIFF'S EXHIBIT

GP-472

CHICAGO, ILLINOIS PLANT FORMULA

LAMINATING COMPOUND #983

(For customer in Minneapolis - see C. E. Abbey letter 6-16-64)

DESCRIPTION OF PRODUCT - Laminating Compound is an adhesive to be used to laminate two sheets of wallboard together in Hummer System or other double layer construction.

FORMULA

<u>Raw Material</u>	<u>Source</u>	<u>R.M. Spec.</u>	<u>Percent</u>	<u>Lbs./Batch</u>
K. B. Flour	Knefler-Bates Co.		40.0	1600.0
Hi Cal Lime	Open Market		3.0	120.0
Tri-Sodium Phosphate	Open Market		4.0	160.0
Vancide 51Z	R. T. Vanderbilt	126	0.2	8.0
Kaysoy 200C	Archer-Daniels-Midland	122	6.0	240.0
Casein 100M	Paul A. Dunkel	10	10.0	400.0
Limestone	Thomson-Weinman	13	36.60	1464.0
Kerosene	Open Market		0.10	4.0
Cottonseed Oil	Open Market		0.05	2.0
Nalco 71D5	Nalco Chemical Co.		0.05	2.0
			100.00	4000.0

SPREADING CONSISTENCY - To determine the proper consistency, mix at a rate of 100 grams to 300 c.c. water, adding the dry powder slowly with continuous stirring. This procedure should take from 30 to 60 seconds. The laminating compound should mix to about the consistency of a thick pour. Cover with a damp cloth and allow the mixture to soak for 10 minutes. Upon remixing, it should be of a thinner consistency and more plastic. Spreading consistency is the amount of water that will allow the glue to be spread easily by means of a comb type spreader; the ridges formed by the spreader not self-leveling or sagging when the board is held in a vertical position.

<u>Specifications:</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Average</u>
	350	300	325

ALKALINITY - After the glue has been reduced to the correct consistency, test for pH by means of the Beckman pH meter. The electrodes should be capable of accurately indicating pH readings in excess of pH 12.

<u>pH Specifications:</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Average</u>
	13.0	12.0	12.5

BOND TEST - The glue shall be applied to a foot square area by means of a comb type spreader. The spreader shall have triangular notches 3/16" wide x 3/16" deep, spaced 1/2" on centers. Place two 0.025 shims parallel on each side of the application 4 inches apart. A 4 inch piece of board shall be placed backside down onto the application of glue and shims. The next day the 4 inch square piece of board shall be pryed loose with a broad knife. There shall be no glue failure, rather a delamination of the board paper or a fracture of the board itself to indicate satisfactory bond.

**CHICAGO FORMULA #983
ASBESTOS CONTAINING PRODUCTS**