

OWENS CORNING
FIBERGLAS

✓ R H Siemmer
WTA Borsching
FOB



intra-company correspondence

to Mr. K. O. Preston

subject K-17 Door Core -
Production Requirements

from A. M. Weaver

date August 10, 1971

cc: Mr. H. A. Waters
Mr. W. D. Huft
Mr. D. C. Koons



I. Raw Materials

A. Short Term (remainder 1971)

For the remainder of 1971, we are planning to use those raw materials currently in the K-17 Berlin product. These are:

<u>Raw Material</u>	<u>Vendor</u>	<u>Cost/lb.</u>
Grade S-33 Amosite Asbestos	North American Asbestos	\$0.1336
7D Chrysotile Asbestos	Lake or Carey Asbestos	\$0.0523
4T Chrysotile Asbestos	Lake or Carey Asbestos	\$0.1169
Quicklime	Warner Lime Co.	\$0.0168
Supersil	Penn. Glass Sand Co.	\$0.0090

B. Long Term (1972)

By 1972, we expect to optimize the formulation by utilizing lower cost raw materials, closer sources of supply (reduced shipping costs) and ingredients currently bought in bulk for the Fyrcor product line. The modifications to be investigated are as follows:

1. Substitution of Hydrated Lime for Quicklime. Problems to be overcome - because of the absence of a bulking agent like DE, the Hydrated Lime may have a tendency to settle out of solution.
2. Using cheaper DX asbestos in place of S-33 Amosite. Problem to be overcome - ability to fine mill (to 3/4" to 1" lengths) the DX fiber in our mill.
3. Substitution of Silica Flour for Supersil. Problem to overcome - mixing efficiency and re-formulation to maintain C/S ratio.
4. Incorporating Fyrcor dust in the formulation. Problems to overcome - evaluation of amounts, formulations, and physical properties; means of capturing sanding dust in usable form.

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II. Mill

Based on the success of the 7/23 trial, we should plan on using our present mill.

III. Mixer

Dependent on activity, our current small (180 cu. ft.) mixer may be used. It is recommended that the rpm of the ribbon blender be increased to obtain increased mixing. Over the long term in the event a new mixer is purchased, the advantages of reported improved mixing should be investigated using Berlin's new cylinder mixer.

IV. Pouring

A. Pump

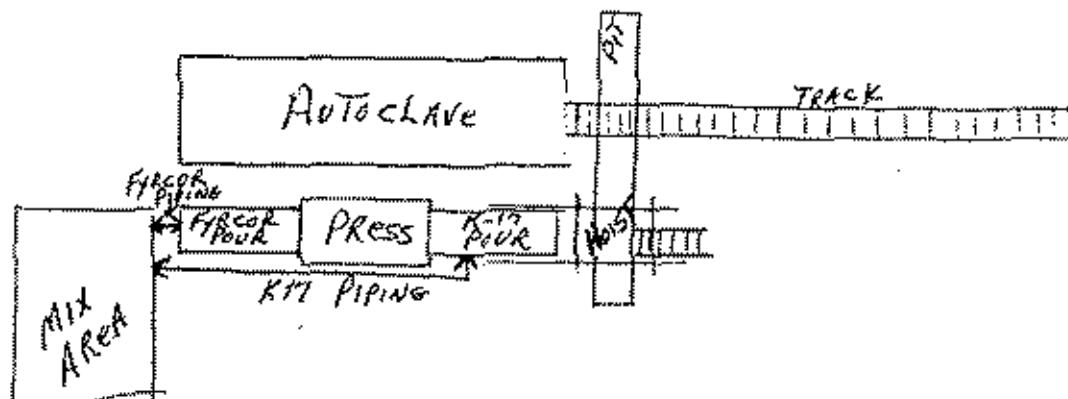
A high thruput/low rpm pump is essential in eliminating our problem of air holes. Berlin currently using a 5" x 7" Moore and White Centrifugal Pump with a Reeves Variable Drive (est. cost \$3-4M). This pump can also be used for Fyrcoor pouring. Moyno Positive Displacement pumps can also be evaluated as to cost and maintenance savings as long as they can be geared to produce a high thruput at a low rpm.

B. Hose

With a new pump, a 2 inch I.D. hose is recommended to reduce air entrapments. A nozzle with separators to break-up the flow can also be investigated if the pump and hose do not eliminate the air holes.

C. Location

Dependent on activity, the short term location of the pouring operation should be at the west end of the Fyrcoor press. The empty molds may be kept on an autoclave truck on the other side of the pit (currently where autoclave plates are stored). The hoist will pick up the empty, place it on the track, and when filled place it on the autoclave cart on the movable track. This method will only involve the cost of installation of pipe from the pump to the west end of the press.



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IV. D. Mold Release

Continue to use motor oil/5% polyethylene and urethane strips.

E. Recovery of excess slurry

For the short term, the screened off slurry can be captured with sheet metal troughs emptying into 5 gallon buckets. Long term, we should investigate a sump when a new pouring location is found.

F. Pour Rate

The estimated pour rate should compare with the Frycor rate for a 2" board. Again our pour rate will be dependent on the mix rate. Berlin rate - Pans/hr.

V. Molds

A. Dimensions

- Why 7/8" gap between mold?*
1. Short term - 2-3/16 x 50 x 98
 2. Long term - reduce green thickness required to finish at 1-11/16 and investigate possibility of using partitions to reduce module size.

B. Design and cost

C. Number

For the short term, one autoclave load of molds should be adequate. (80)

VI. Autoclave

A. Cycle

1. Short term - 1-12-3
2. Long term - reduce time at pressure and install automatic pressure bleed-off controls.

B. Capacity - 16 Pans/Cart 5 Carts/Load.

VII. Drying

A. Cycle - 72 hours @ 350° F.

B. Capacity - 16 Boards/Cart 5Carts/Oven load.

VIII. Finishing

Boards are to be finished rough sanded to 1-3/4" thickness (per Novak). Finishing rates should compare to Frycor rates.

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