



DOW CHEMICAL U.S.A.

PLAINTIFF'S EXHIBIT

BIR-945

March 3, 1982

P. O. BOX:

MIDLAND, MICHIGAN 48640

Kenneth Sutton
Bird & Sons, Inc.
Technical Center
East Walpole, MA 02032

Dear Ken:

According to our information the normal hydropulper batch size at Shreveport is 6,375 gallons. At 8% consistency this equates to 4,250 lbs. of solids. There would thus be 170 dry lbs. of latex required per batch at 4% addition level. A full drum of latex contains 212 lbs. of solids. To be able to use a full drum of latex per hydropulper batch would require a batch size of 7943 gallons and 5300 lbs. of solids. Your hydropulper, being 14 ft. in diameter has a capacity of 1152 gallons per foot of height. The added volume needed for utilizing a full drum of latex (7943 gallons - 6375 gallons = 1568 gallons) means an added 1 foot 4 inches to the normal batch height in the hydropulper. This probably would make it too full so I would not suggest doing it.

Your suggestion of possibly increasing the volume per batch enough to raise the height in the pulper by 6 inches would certainly help the timing problem and would appear to be practical. An additional 6 inches equates to 576 gallons, bringing the batch to 6951 gallons. This would be 4638 lbs. of solids, 186 dry lbs. of latex, 2783 lbs. of filler (56-50 lb. bags), and 1670 lbs. of waste corrugated fiber. This size pulper batch would last approximately 22 minutes running the 55 lb. material at 150 fpm. If the stock chest and machine chest plus the hydropulper were filled before the start of the trial there could be 6 batches prepared ahead. This would be 2 hours and 12 minutes of running time. There would then be 3 hours and 48 minutes to make-up the remaining 42,000 lbs. of solids. This is 9 batches and would allow 25 minutes per batch. This could probably be done. I'm basing my calculations on the fact that the last two hours would be run at 39 lbs/480 ft², instead of 42 lbs, and would require 18,245 lbs. of dry furnish.

The 25 minutes make-up time per pulper batch would be easier to accomplish if the required filler and fiber for each batch were set aside ahead of time. In other words put 56 bags of filler on a pallet and pre-weigh piles of fiber of 1670 lbs. each.

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

BIRD 013992

Mr. Kenneth Sutton
Page 2
March 3, 1982

The hydropulper should be loaded with roughly 50% of the necessary water before the corrugated is added. As the corrugated is put in the operator should then use whatever water is required to obtain good pulping action. As soon as the fiber is in the bags of filler should be split and thrown in. Latex is then pumped in and the volume brought to the proper level before dumping.

We will furnish a pump to handle the latex. It will require compressed air to operate.

Fresh water will be needed to fill the two 1000 gallon flocculant tanks plus at least a 1/2" line with good pressure is required at the funnel inductor used to disperse the Betz 1260 as it is added to the 1000 gallon tanks. Dow will furnish a dilution unit that will pump the flocculant from the tanks at the proper rate (about 3.2 gpm) and mix it with fresh water. The dilute flocculant will then be fed to the port at the outlet of the machine chest. The dilution unit will also require a fresh water line that will supply at least 30 gpm.

For the commercial operation at least a 10,000 gallon storage tank for latex storage would be required along with a minimum of 3" unloading line for tank trucks. No pump would be required for unloading the trucks if the trucks were specified for air pressurization and compressed air with a suitable regulator and pop-off valve was supplied to the unloading station. A small pump and meter would be required to supply latex to the pulper. Dow can supply you with specifics on bulk latex storage and handling when and if you commercialize the product.

A permanent installation would also include two 1000 gallon flocculant tanks. A metering pump and simple dilution unit would also be required.

A silo to receive the filler in bulk would be desirable. A front end loader with a scoop holding the required amount for a pulper load would handle the filler.

An accurate method to measure the amount of corrugated for each batch would be necessary. This could be done by using known constant sized bales, or weighing and breaking bales as necessary.

Please send us the sample of filler you intend to use as soon as possible for evaluation. We will call you with the results.

Sincerely,

D. H. Clarey
D. H. Clarey
Designed Products
2040 Dow Center

slk