PLAINTIFF'S EXHIBIT FOS-397

Foseco®

COMMERCIAL DEVELOPMENT DEPARTMENT

STEEL MILL PRODUCT DIVISION

APRIL 1973

I. NON-ASBESTOS PROFAX-PROFLEX

Profax Boards

During April 1973, we tried to improve the green strength, density and suspension properties for E.P.-5273 series.

(a) Increasing fiber glass content was tried to improve green strength for #669 boards. The result is satisfactory but the board's surface has a rough appearance.

(b) To improve the density for E.P.-5273 recipe, we substituted X1790 with RM 289F. The density was lowered by 20% in our laboratory tests. The solid content of the slurry was 30%.

This recipe was tried on K4 (injection molding machine) on Monday, April 23, 1973, using Boards #685 for COPPERWELD. The run was with no major problems until Tuesday, April 24, 1973, when, after 32 hours, a blockage of the blow tank occurred and production stopped.

Tuesday, April 24, 1973, the same recipe (E.P.-5273B) was tried on "B" corrugated machine. Nine full shifts were ran with no problems. The production stopped on Monday, April 30, 1973, because of the blow tank blockage.

The conclusion was that the solid content is too high and at production the suggestion was tried using the same recipe (E.P.-5273B) at 15% solid content. This run was scheduled at K4(injection molding machine). During the experimentation (around 15 hrs.) a severe separation of RM 289F was found on the slurry's surface under foam aspect. The separation problem of RM 289F is in the process of development.

The E.P.-5273B recipe was tried on 'K' Mark III machine using tool #699 for U.S.S.-Fairless. The E.P.-5273B recipe has lower green strength at 30% solid content versus E.P.-5273 but better green strength at 15% solid content.

During the experiment, some investigations were made concerning the solid content variation in K-4 machine's holding tank. The samples were taken out from the top and from the bottom for E.P.-5273B and Profax 31. The solid content variation was 4.5% for E.P.-5273B and 0.4% for Profax 31.

(c) One of the major problems on our recipes is the suspension. Our plant experiments showed that we cannot compare our laboratory results with industrial procedures. In other words, our laboratory equipment does not reproduce the industrial machine effects on the prescribed recipes or on laboratory scale or semi-industrial scale.

Each recipe was tried at laboratory scale and at semi-industrial scale (20 gals) before an industrial experiment. The semi-industrial procedure used to prove the stability of our recipes is entirely different of industrial procedure.

Comparing the suspension tests for E.P.-5273 series at 30% solid content with Profax 31 at 13% solid content, the suspension data is very close slightly favorable to Profax 31.

Under the new conjuncture, we have found a new possibility to increase the suspension property for E.P.-5273 series. In our E.P.-5273 recipes the suspension agents were X1281 and RM 117. However, X1281 is working as a dispersant for X2782. Because of inconsistency of RM 117 (chemical and mineralogical composition) the X1281 effect is affected and also X1281 has an aging effect in time. For that reason, we tried to flocculate another RM which is consistent and is industrially prepared.

The raw material is RM 177A. In this situation we can substitute entirely RM 117, the X1281 effect will be directed only to disperse X2782. The new recipes noted, E.P.-5273C and D have better suspension like Profax 31 at 20% and 15% solid content respectively. The Amitec test for E.P.-5273C is very close to Profax 31. The density and price are comparable.

Our further work should be directed to develop a Profax type recipe having the density value under 0.700 g/cc.

The conclusion is: Our machines are not designed to work with a high solid content slurry and I suggest, for an increasing in productivity and production, after proper Profax-Proflex, Seal On ring recipes are developed, to study the possibility to improve the functionality of the machines in this respect.

(d) Some development work was done for a Profax type recipe with 2 - 3% paper.

The disadvantages of this type of recipe is the low burn point for paper and a long time to pulp it.

We tried to increase the burn point for paper using a low temperature dissociation carbonate (as $MgCO_3$ (350°C) and to impregnate the paper with a silicone water insoluble solution. Another important factor is the change of bindering system. The work is underway.