



March 1974
RESEARCH AND DEVELOPMENT DEPARTMENT

1. Non-Asbestos Profax

- a. Production. EP 5465A production runs went well without any major technical problems. In comparison, the usage of asbestos and non-asbestos bearing recipes, from time to time, results in problems caused by misformulation on both sides.
- b. Experimentations. EP 5465A was used in a production run on the K4 machine (685 boards for Copperweld), 1 Pc machine (669 tops for Canton), and corrugated machine (800 and 636).

No technical problems occurred when 150 sets were produced on the K4 machine. However, the solid material accumulation into the blow tank, due to the lack of blow back operation, created unsolvable problems and the test was stopped. Again, the usage of a blow back system is a necessity.

On the 1 Pc machine, EP 5465A worked as well as Profax 31 and I felt the test approved the material. On corrugated machine, which has the same principle as the 1 Pc machine, no technical problems occurred when producing the corrugated boards. The conclusion of the tests should be favorable to EP 5465A.

2. Non-Asbestos Proflex boards

An experimentation run was scheduled and ran during the month employing the EP 5484 recipe on a Mark III machine. No technical problems occurred during the test (1 pallet). However, the boards are not soft enough and more work should be done in that direction. More experiments are envisioned during April and May 1974.

3. Non-Asbestos Proflex tops and Seal-On rings

- a. 1 Pc tops. The EP 5492 recipe was successfully tried to produce #897 tops. 83 tops were produced after solids content adjustments were made. The average strength and density taken from the finished tops were in specification. The density of EP 5492 is 25% lower than the asbestos bearing recipe used for the tops.

The solids content adjustments were necessary because the flange area, which is formed the last, was thinner than the rest. The same problem occurs even while the current recipe is used, but EP 5492, which has a twice as high solids content, accentuates it. An engineering evaluation of the problem will be forthcoming.

The same EP 5492 recipe was unsuccessfully tried for three consecutive days in the Chicago plant attempting to produce #390 tops for Wisconsin.

The problems occurred during the tests are attributed to RM X3580 which, probably, do not flocculate the day's recipe. Further tests will prove or disprove the theory.

- b. Seal-On rings. Three sizes of rings were produced on the Mark IV machine with very promising results.

The EP 5492 recipe has been used on regular tools and the new injection tool. The injection tool has produced the best ring made on the Mark IV up to date. The cycle time was very low, almost half of the current recipe.

4. Miscellaneous

- a. Premix Profax at Bethlehem-Johnstown. The average scrap rate for the month was 2.52% versus 1.28% last month.

The transverse strength and density were 238 p.s.i. versus 260 p.s.i. and 0.848 g/c.c. versus 0.87 g/c.c.

During the month, the overfill and boiling problems started to escalate up to 13-15%. The causes are in study by our engineering groups.

- b. Premix Profax Developments for Bethlehem-Johnstown. The field trials for the new high permeability recipe has been temporarily postponed. Trials will begin in April, 1974.
- c. EP 5482 Premix Profax for Bethlehem-Johnstown. The second largest 1 Pc tops (878) were produced for the first time on the new 1 Pc. machine. The average transverse strength was 255 p.s.i. and the density of 0.85 g/c.c. Tops are to be tested in the steel mill.
- d. EP 5465B Asbestos free Premix Profax for in-plant usage. 4000 pounds of asbestos free premixed profax were produced at Mt. Braddock according to the new laboratory instructions. Samples were tested in the laboratory and were found to lack the suspension. Addition of 0.14% RM X3580 gave the material the necessary suspension. Plant trials showed acceptable boards (#341) on Mark III machine.
- e. Liquification of RM X3580. RM X3580 was easily liquified in a 55 gallon drum by using a high speed mixer.

By using RM X3580 in the liquid stage, it will be better inspersed during the pulping operating and probably more effective.

5. Hot topping compound development

- a. Smokeless hot topping compounds. No more work has been done due to the manpower shortage. The problem probably will be revived in April, 1974.
- b. EP 5499. The former XS 1569 is now EP 5499. This material has been tried successfully at Laclede. The trial results of the Copperweld test are not acceptable due to the quantity used.