



Steel Mill Products Division
Research and Development Department
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Profax Boards

Armco-Middletown, along with Fairless and Copperweld, has accepted the asbestos-free recipe for their usage.

For that reason, during June 1973, the EP-5290 and EP-5290A recipes were employed on K-4, B Corrugated and 2-3 Mark III machines daily.

Under production conditions, both recipes have had higher green and dry scrap rate than Profax 31.

Part of the explanations could be:

- (a) The recipes have not enough green strength.
- (b) The recipes use too many raw materials which make them very sensitive under actual production conditions.
- (c) Eliminating the prebatch procedure has worsened the green and dry stage characteristics. Because of these facts (high green and dry scrap) we came up with a paper recipe noted XS-1531. The experimental run scheduled for Friday, June 29, 1973 on "E" Mark III machine was smooth and the obtained boards were much better from the Quality Control standpoint than the boards obtained from EP-5290 or EP-5290A.

The XS-1531 recipe has the following characteristics:

--- density	0.82 g/cc
--- transverse strength	240 - 250 p.s.i.
--- final net heat loss	7155 Btu/sq. ft.
--- final rate	106 Btu/sq. ft. min.

FOSECO 2245

The XS-1531 recipe has the density 6.5% higher than Profax 31 and 22.3% higher than EP-5290 or EP-5290A. The other physical and thermal characteristics are similar to Profax 31 and EP-5290 or EP-5290A.

Three samples of XS-1531 were tried at 600°F. After 20 minutes the sample did not show any paper burning but the paper started to burn between 30 and 40 minutes. The encouraging fact is that the burning process does not continue after the sample is taken out from the oven.

Proflex Boards

An experimental run was scheduled on "E" Mark III machine using the XS-1529 recipe. The XS-1529 recipe did not work.

Under laboratory procedure, a paper recipe noted XS-1531 was prepared. The obtained material has the following characteristics:

--- Density	0.431 g/cc
--- Transverse strength	24 p.s.i.
--- Final net heat loss	7074 Btu/ sq. ft.
--- Final rate	109 Btu/sq.ft. min.

The XS-1531 recipe has the physical and thermal properties similar to Proflex G-3 recipe.

To avoid the paper burning process we have to use in both recipes (XS-1530 and XS-1531) flame retardants. The flame retardants material will be used, first under laboratory conditions, during July, 1973.

Proflex Rings

An experimental run was scheduled on Mark IV machine using the XS-1527 recipe. The experiment was not successful because the material that resulted was too porous.

It is our intention to use XS-1531 modified for such a purpose.

Premix Profax at Bethlehem-Johnstown

The average scrap rate for the month was 1.14% compared with 0.25% last month. The transverse strength and density were 258 psi compared with 303 psi last month and 0.87 g/cc compared with 0.90 g/cc last month.

During June a lack of green strength had been reported. The laboratory investigation showed that the two received samples, labeled H-131-HP and #300, have different fiber glass content. Two people from our department and Quality Control people have made a close investigation at Mt. Braddock and Johnstown. The conclusion was that the new procedure to produce Premix at Mt. Braddock is not well known. The technological process was set up and the Premix material is better.