

LABORATORY COMMITTEE MEETING

June 6, 1957.

Messers: R. W. Higgins
E. R. Marden
H. B. Speelman
H. E. Lewis
E. W. Rix
R. B. Abell

Gentlemen:

Meeting was called to order at 10:45 A.M. on June 6, 1957 in the Aurora Conference Room. The next meeting will be held at the same place on July 11th, 1957 due to the July 4th holiday weekend.

The new 711 Insulating Cement sample bags are here and in use. A discussion of sewing vs wire tie on the considerable number of 5# Utility Finish bags was held and it was decided to cut approximately four inches from the top of the bag and then sew them without trying to form a gusset.

1. E2-A - Hot Strength Testing.

John Hossein is afraid of cutting into the stack per Dan Rix's study sketch of May 22, 1957. He talked with Karl Davis who stated that a simple aspirating burner might be a better choice than a Maxon Premix. Karl also suggested venting this furnace directly into the atmosphere of the room. This suggestion was deemed impractical due to the wooden floor structure directly above the test unit and the relatively small cubical content of the room in which the structure would be. Karl then suggested a hood arrangement vented into the stack via small openings and taking in a great deal of cold air so that we would not need the large amounts of insulation on such an elaborate flue structure. R. W. Higgins is to visit Esyes Laboratory at H-W in Pittsburgh to observe this type of furnace and see how they handle the venting problem. On using an aspirating type burner we would be limited to negative pressures in this unit and would be forced to forgo the plus pressure tests that were originally planned.

Ed Marden suggested the possibility of a tunnel under the stack base coming up in the middle so that all of the hot gases would be kept away from the metal portions of the stack.

Bob Higgins will be in Pittsburgh during the week of June 10, 1957 and will discuss this project completely with Karl Davis and John Hossein. We will now wait with any purchases on this project until more information is received from this conference.

R. B. Abell will check with Maxon on their safety recommendations, purge cycles, etc., and also with the Eclipse Fuel Company in Rockford who make the aspirating type burner.

2. E2-B - Cold Impact Test Program.

No progress to report.

Laboratory Committee Meeting
June 6, 1957.
Page 2

3. E7-B Tile Abrasion Test Program.

Work in progress. We have completed tests on one special SF mix by Mexico Refractories.

4. E8-B Comparative Competitive Testing.

Quigley Insulag has a 35% volume increase while setting which brings its density down to 37#/cu. ft. although it only has 75# psi compressive strength and its coverage is no better than our Pyroscat which is much stronger (1650#psi) and much easier to handle. We have not received the sample of Franco-lite yet.

5. E12-A New Model Thermolayer Wall Construction.

The new concrete chute was offered for examination and will be turned over to the engineering department for their comments. Completion of this model will now take place after June 15th.

6. E13-B Low Cost R Factor Equipment.

Work in progress per minutes of last month's meeting.

7. E14-B Model of American Arch Insulating Refractory Wall.

The design for this model is completed and material present. We have cut about one half the necessary number of insulating refractory tile and have now decided it will be necessary to use steel straps rather than the stud and VI castings we thought to be more adaptable. R. B. Abell is to obtain a pattern for these straps and procure them. R. W. Higgins and Earl Davis will set the date for this work.

8. F1-A Block Insulation Research.

A. FIV variable speed unit has been received and will be installed as soon as present improvement on splitter and cross cut saws are completed. This installation should be finished by July 16th at the end of our vacation shut down.

B. ASTM proposed handleability equipment is ready for use now. We will test block 6"x36" starting with 1½", 2" and 3" thickness to try and obtain a correlation between thicknesses.

C. Block Machine Improvement.

1. Splitters and flying crosscut are now installed but under adjustment for bug removal.

2. Positive Drive System.

(A) Preliminary design sketches are started but present block machine improvements are holding work up.

(B) Unchanged from last month's minutes.

(C) Unchanged from last month's minutes.

Laboratory Committee Meeting
June 6, 1957.
Page 3

3. Vacuum Water Removal System.

Exploratory tests using small Roots blower for vacuum pumps removed one half pounds of water per board foot of block at 5-6" of vacuum. Water removed at block machine materially increases drying production and reduces costs. *Large and dry sawing - 17.5 ft. x 4.5 ft. - 1-4 ft. x 1-4 ft.*

9. P2-A Slug Free Wool and Shot Reduction.

To improve on our new slug separating system we need a more constant feed to the wool granulator. The new heat resisting steel divider was put in service June 5, 1957. Work on using shot in cupola is continuing also considering the possibility of screening and grading shot for sand blasting usage.

10. D2-B Pyroscat

Work in progress. 1-2-4 Concrete absorbed 9% of water by weight (135#/cu. ft.) while Pyroscat absorbed 55% by weight (50#/cu. ft.) During the first forty eight hours both lost 60% of their total water, that is the concrete lost 7.3#/cu. ft. while Pyroscat lost 16.5#/cu. ft. As soon as this report is finished it will be forwarded to Dick Moore in our Cleveland office.

11. D4-4 Utility Finish.

1. Navy specifications.

Work in progress.

2. Finish for highly absorbent material.

Work in progress.

3. Poling qualities vs One Coat.

50# of SS2 tried at Ft. Leonard Wood showed improvement but customer said it still didn't palm as well as One Coat.

12. D5-2 Thinsuliner and Thinsuliner S.L. Cements.

Temporary data sheet and material samples have been sent to Insulation Division sales personnel.

13. D12-B New Type Block Insulation Research.

Our present greatest need for a new block is one that will meet ASTM spec C333-54T for DE block and Harry Lewis also suggested that this specification be used as a yard stick for our future work on this project.

A considerable discussion was held on the basic premises of this entire project reviewing its history and what trends the Committee thought the project should take. Mr. Hadden will present the economics of his vermiculite block, mentioned in previous minutes, at a future meeting.