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NATIONAL GYPSUM COMPANY
RESEARCH LABORATORIES

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Report No. 391

Date June 28, 1949

REPORT TO THE DIRECTOR OF RESEARCH FROM Acoustical LABORATORY

TITLE: On the Job Application of Spraying Wool for Acoustical Treatments.

REQUESTED BY: F. L. Marsh

WHAT IS WANTED: A description of the application and evaluation of Spraying Wool on the job.

WHY WANTED: To determine the possibilities of using these mixtures for sprayed acoustical treatments.

REPORT:

1. Mix containing Amosite fibers sprayed very well onto a rib lath ceiling, no sections dropped off, nor did any blisters form.

2. Mix containing asbestos fibers 4T-4Z did not spray on satisfactorily, some sections dropped off.

3. Water usage for the Amosite mix averaged 1/2 lb. per lb. of material. The mix containing 4T-4Z fibers required an excess of water.

4. The sprayed material resulted in a rough finished surface.

5. Asbestos floats improved the texture slightly, but contributed to dustiness.

6. Coverage at 5/8" thick averaged 2800 sq. ft. per ton, this is equivalent to 2330 s . ft. per ton at 3/4" thick.

7. Perfection Paste Powder shipped from Chicago did not perform as well as paste powder shipped from Dunellen, N. J.

KK # 707984

Introduction

Four different formulas of spraying wool were applied to the rib lath ceiling in the auditorium of the new Junior High School on Shroyer Road in Montgomery County, Ohio, by our acoustical applicator Myron Cornish & Co. of Dayton, Ohio.

Formulation

Number	X-2	A-2	X-3	A-3
	(percentages)			
Perfection Paste Powder	8	8	8	8
Asbestos				
Amosite	10	10		
4T-4Z			15	15
Floats (7RF)	5	5	5	5
Mineral Wool				
Type X	77		72	
Type A		77		72

The mixes were formulated at the Alexandria Plant using the cement mill.

Application

The materials containing Amosite fibers sprayed on readily, with no sections dropping off, nor blisters forming. The spraying rate, at 5/8" thick averaged 2 1/2 lbs. per minute, which is comparable to the Limpet application rate. When tamped, a rough surface resulted. The application of a fine finish coat, did help smoothen the surface, but not as smooth as Limpet.

The water usage for the Amosite mix averaged 0.5 lbs. per lb. of material. This was considerably less than used for the starch, wool mix previously applied.

Type X wool mix appeared to use slightly more water than did Type A wool mix, but this was only visual, since work could not be stopped to check the actual water usage.

The mass when dried adhered very well to the metal lath.

The application of the mix using the shorter asbestos fibers 4T-4Z, did not perform satisfactorily. An excessive amount of water had to be used resulting in a wet mass. The initial bond was poor, and some sections dropped off the ceiling. When dried, the material appeared to be as satisfactory as the sprayed Amosite mix.

All of the sprayed wool was covered with a thin coat of Limpet. The Limpet adhered very well to the wool, and temped to a smooth finish.

The binder used was Perfection Paste Powder shipped from Chicago. Its bonding action though satisfactory, did not perform as well as paste powder previously used from Dunellen, N. J.

The coverage for both types of material averaged 70 sq. ft. per 50 lb. bag at 5/8" thick, this is equivalent to 2330 sq. ft. per ton at 3/4" thick.

Generally the wool application was dustier than the application of Limpet. This dustiness was attributed to the use of asbestos floats. The floats did improve the texture slightly.

Recommendations

1. The floats should be removed from the formula, since the increase in dust, and the possibility of Asbestosis out-weigh the slight increase in surface smoothness.

2. With the possibility of purchasing the Amosite fibers at a lower cost, the Amosite content of the formula should be increased 2 %. This would help compensate for the removal of the floats.

3. The new formula should be

Type X mineral wool	80%
Amosite fibers	12%
Perfection Paste Powder (Dunellen, N. J.)	8%

The new formula would be advantageous in manufacturing since wool is normally sacked 40 lbs. to a bag, and no adjustments of weights would be required when making 100 lb. batches.

F. M. Stumpf
Research Department

FMS/mjh

B. O. Stewart

Approved for Distribution

By

SAINT LUKE'S HOSPITAL
11311 SHAKER BOULEVARD
CLEVELAND, OHIO 44104
DIVISION OF MEDICINE

Timothy D. Tolin
Personnel & Safety Supervisor
National Gypsum Company
Millington, N. J. 07946

Re:
Film No. 27530
Taken on: 10/4/68

Dear Mr. Tolin:

I am sorry to be late in answering your letter but I have been out of the country and am only now getting around to my correspondence. From the information that you have supplied to me I strongly suspect that has mitral stenosis and this accounts for the abnormal contour of his heart shadow. The fact that his heart shadow was getting larger is difficult to evaluate other than by a direct history and physical and knowledge of his past in greater detail than you can obtain. This, of course, can only be done by his personal Physician or a Consultant chosen by his personal Physician. I suspect that has more of a problem with his heart than he either knows about or is willing to talk about.

In all probability the abnormalities in the basal portions of his lung are related to the heart disease but the possibility that he may have inflammation and changes in the pleura of the lung which might be related to asbestos exposure should be kept in mind. I don't believe that at this point it should be pointed out to him.

It is my impression that you have done as much as management needs to do since you have called to his attention the fact that he has an abnormal film. From my own past experiences I would not advise making a stronger approach to either or his Physician.

With best wishes,

Sincerely yours,

George W. Wright, M.D.
Head, Medical Research

cc: Mr. Frank Zimmerman

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