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ROUTE TO:

SQUARE D COMPANY
INTER-OFFICE

TO DM

FROM ME-11

ATTENTION C. W. Denny III

BY Bill Vosdingh

DATE February 26, 1979

SUBJECT Asbestos-Free
Molding Material

CC C.E. Ashley - PS
W.H. Woito - ME
E.J. Fritz - EF
C.R. Junttila - ME-1
R.D. Boley - MO Plant
L.C. Kovar - MO Plant

Dear Charley,

Following is a brief resume of the molding material the Missouri Plant will be molding and the asbestos-free replacement status:

1. Plenco 509-120 flow #1593-000220 used on Q1 base covers, Q2 bases and covers and miscellaneous parts. Plenco 548-110 flow #1593-200810 is the approved replacement material.
2. Plenco 509-140 flow #1593-000222 This is the injection version. Missouri should be able to use either the asbestos-free version of Plenco 509 or the injection version of Plenco 548, because the parts they will be molding all used to be made from weaker general-purpose materials before they were converted to inline. I would recommend using Plenco 548 because of its lower specific gravity. General Electric material P4304E-CH #1593-200661 is an approved inline material which we are starting to use here on the FA 3-pole covers. It is probably a better material than Missouri requires.
3. Rogers 468 #1593-000170 used on Q1 bases and covers. We have Plenco 552 approved for these parts. Durez 30871, which Lincoln is using, failed on Q1 tests. We have not converted to Plenco 552 here because we have been unable to get a version that would not clog the Vac-u-max filters. However, if Missouri goes to some sort of gravity feed in to the press hopper, they should have no problem in using it. I am also going to sample Rogers 862 material as a possible replacement for Rogers 468.

I hope this answers the questions concerning these materials.

Bill Vosdingh
Bill Vosdingh

sf

SQDKVR_000701

ROUTE TO:

Mr. [unclear]	Mr. [unclear]
Mr. [unclear]	Mr. [unclear]
Mr. [unclear]	Mr. [unclear]

SQUARE D COMPANY

INTER-OFFICE

TO Cedar Rapids

FROM Missouri

ATTENTION C.W. Denny III

BY R.D. Boley

DATE October 5, 1979

SUBJECT Asbestos - Free Molding Material

C.C. W.E. Ballin - MM
G.L. Emanuel - IE
L.C. Kovar - PS
R.K. Molde - QM
B.F. Wesseldine - TE
J.L. Wiseman - EM

Dear Charley:

The following is a summary of where we are with regard to our conversion to asbestos - free molding material.

I. Inline Machines:

We presently are using asbestos-filled Plenco 509-140 flow. We have molded samples of the Q2 Blade Insulator of Plenco 548, asbestos-free material. Our intent is to standardize on Plenco 548 for all inline molded parts presently molded of Plenco 509-140.

Production Engineering is now assembling test samples. The testing will be performed in Missouri and a decision will be made no later than October 15.

II. Compression Machines:

1. Q1 Base and Cover - molded of Rogers 468 asbestos-filled material. Cedar Rapids has approved Durez 31099, asbestos-free material, as a replacement for Rogers 468. We have sampled Durez 31099 to test for moldability and strength. These tests were successful. Missouri has ordered 1000 lbs. of Durez 31099 for a pilot run. We intend to run both bases and covers from this material and will test for process problems as well as the affect of the material on the performance of the circuit breaker.

Procurement of the material, molding of parts and testing will be completed by November 16.

2. Q1 Base/Covers - originally molded of asbestos-filled Plenco 509-120 flow. Cedar Rapids approved the change to Plenco 548 asbestos-free material on change Report D-508, dated June 7, 1979. Missouri changed to Plenco 548 August 8, 1979. These parts first arrived on the production line September 5, 1979. It was determined at that time that Plenco 548 parts are dimensionally unacceptable due to excessive shrink. If the parts are mated with other parts molded of 548, the dimensional difference is not a factor, for both parts will have the same shrink characteristics. But Missouri sandwiches this part with parts of dissimilar material. This results in alignment problems during assembly and NTI's on approximately 50 percent of our production.

EXHIBIT

SQDKVR_000705

Missouri immediately withdrew the Plenco 548 from production and reinstated Plenco 509-120. We immediately contacted the Plenco representative and with his assistance are running tests on parts molded of Plenco 509AF, asbestos-free and Plenco 548. These tests are being performed to determine whether the amount of shrinkage incurred can be controlled consistently by changing any or all of the machine or process parameters. To date, none of the changes attempted have proven successful in minimizing the shrink problem.

These experiments will be completed by October 15. If not successful, we must qualify another material for this particular application, or standardize on a material other than Plenco 548 in Missouri.

We are presently running both the Q2 Base and Cover successfully from Plenco 548. Shrinkage is high but consistent in both parts, therefore, we are not encountering the problem we do with the Q1 Base/Cover parts.

In the meantime we are working with representatives from Plenco, Durez and Reichhold. Plenco is working on reformulation and other material recommendations. Durez and Reichhold have been requested to make recommendations.

General Electric's 4304 is an injection molding material and cannot be used for the Q1 Base/Cover. It also is a more expensive material than required.

GEL293E is a compression molding material presently approved for Q2 parts. It has never been sampled or tested on Q1 parts. By copy of this letter I am requesting Bruce Wesseldine and Bill Ballin to request information on this material and procure enough material for Missouri evaluation.

With the lead times involved in obtaining information from suppliers, procuring material for samples, and performing tests and evaluating test results, we have made significant progress in these past four weeks. We were fortunate to recognize the problem at an early stage of production.

Our plan is to continue to work with our molding powder suppliers to resolve this one (1) problem part. Other than for this one part, our conversion to asbestos-free material is progressing smoothly.



R.D. Boley

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