

Monsanto

FROM (NAME & LOCATION)

St. Louis - General Office

cc. *HARRY KAY*

T.E. GREENMAN

L.M. McCutchen

DATE July 1, 1968
SUBJECT EVALUATION OF DRUM LINERS
FOR ELECTRICAL AROCLOR
REFERENCE Your report #3, Job #370-501
TO : Dated 6/24/68
TO : W. H. Howard - ANNISTON

cc C. E. Anagnostopoulos - CANAG
D. C. Armstrong - KRUMMRICH
H. S. Bergen - HBERG
J. G. Bryant
H. C. Carder - HCARD
D. Danna - DDANN
W. B. Dunlap - ANNISTON
V. R. Haupt - ANNISTON
H. O. Hehner - HHEHN
D. B. Hosmer - DHOSM
N. T. Johnson

W. B. Kuhn - WKUHN
J. C. Landwehr - ANNISTON
G. W. Miller - ANNISTON
~~J. W. Molloy - KRUMMRICH~~
R. H. Munch - SECOND STREET
W. B. Papageorge - ANNISTON
J. F. Quinn - SECOND STREET
W. R. Richard - WRICH
J. R. Savage - QUEENY
C. M. Williams
H. L. Williams - ANNISTON

HARRY
LOOKS LIKE WE NEED
TO ESTABLISH A
POSITION ON THIS FOR
WGK. Do we agree
with the new proposal?
GM

1. DEFINITION OF THE PROBLEM:

To develop a drum package which will maintain high quality electrical Aroclor for both domestic and foreign customers.

2. SUMMARY OF ANNISTON'S RECOMMENDATION:

As a result of the Anniston studies, one coat of clear epoxy-phenolic lining is recommended to solve the problem.

3. OUR REASONS TO QUESTION THIS CONCLUSION:

a) Two coats of clear phenolic, which is the lining presently used, was found to give superior results regards power factor and resistivity retention qualities of all coatings tested--including also Dalbon; epoxy-phenolic, clear and pigmented and applied either with one coat or two coat applications.

b) In all instances the experimental drums were flushed three times with good quality Aroclor to clean the drums prior to using them for packaging the Aroclor.

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- c) As we do not normally flush our drums prior to packaging with Aroclor, the experimental approach is inconsistent with our practice. Moreover, as the recommendation made to solve the problem does not call for flushing the drums prior to packaging, we wonder whether the problem is really being solved.
- d) As a result of the work done, the recommendation calls for using one coat of phenolic-epoxy lining, which is merely the cheapest way to provide a coating (with a saving of \$12,000 a year)--and probably without having solved the problem.
- e) This is to say that unless triple flushing or equivalent effective drum flushing were undertaken (and this could be costly), we may be no better, or in fact, worse off than we now are using two coats of the clear phenolic lining. We acknowledge that the clear phenolic lining has a drawback of being brittle, and that modification with epoxy would probably improve this feature. In that case, it appears that the use of two coats of epoxy-modified phenolic should be considered.

It is known that one coat of any lacquer does not completely cover the interior of the drum; in which event we wonder why use such a single coating?

- f) Trip Report: Florida Drum Company, Pensacola, Florida, July 18-21, 1967, by J. G. Bryant, August 3, 1967:

"To test the least expensive alternate to phenolic, we made up five single coat epoxy-phenolic lined drums. The surface of these drums after coating had "fish eyes", or concave bubbles, which yield bare spots (or at best, minute coverage of the metal). To correct this problem, five double-coat drums were fabricated. The impact resistance (according to the lacquer manufacturer) is improved. With crude testing (ball hammer), we can see no difference between the clear epoxy phenolic and the clear phenolic."

4. CONCLUSION

We do not feel that the experimental work done has lead to the proper solution of the problem at hand, and Marketing is not inclined to accept the recommendation being made by the factory, to use one coat of phenolic-epoxy.

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In any event, experience shows that two lacquer coats are required to cover the metal surface.

Moreover, we could use a solid gold or platinum drum and still not solve the problem unless the drums were thoroughly flushed or cleaned. Bayer and Prodelec employ special drum cleaning to effectively maintain electrical values. How much would it cost us to do this? Will the added cost be justified by the results obtained by the user under normal circumstances? In general, the answer is probably NO--in some special situations the answer could be yes.

Therefore, will Anniston please establish what it would cost to specially flush (three times) or otherwise specially clean the drums to bridge a special situation, if needed.



P. G. Benignus

/ecd

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