

LEAD INDUSTRIES ASSOCIATION

480 LEXINGTON AVENUE

NEW YORK 17, N. Y.

RED LEAD DIVISION

FINAL DRAFT
CONFIDENTIAL

RED LEAD TECHNICAL COMMITTEE

New York, N. Y.

October 16, 1952

A meeting of the Red Lead Technical Committee was held on October 16, 1952 at the Commodore Hotel, New York City.

The following persons attended the meeting.

Individual

Mr. Ray Bates
Mr. George Diehlman
Mr. Neil Garlock
Dr. J. O. Johnstone
Mr. Paul Whitford
Mr. E. K. Zimmermann

Representing

National Lead Company
National Lead Company
Eagle-Picher Company
Hammond Lead Products, Inc.
Eagle-Picher Company
National Lead Company

Dr. L. L. Carrick, University of Michigan, Meeting Chairman
Mr. C. J. Vander Valk, Technical Director, Pigments and Chemicals Division,
Meeting Secretary
Mr. R. L. Ziegfeld, Secretary and Treasurer, Lead Industries Association

PROPOSED PROGRAM FOR 1953

The Committee reviewed the tentative program and budget for 1953. A copy of the program and budget are attached to these minutes as APPENDIX A.

The Committee expressed approval of the program with the provision that the chief emphasis be placed on field work. It was agreed that field work on red lead has become increasingly important in view of the marked decrease in contact work during the past year by certain member companies.

It was also proposed and agreed that an increased effort be made to prepare articles for technical publications outside of the paint industry. Reference was made to publications read by engineers responsible for paint specification and maintenance of steel structures—such as Engineering News Record, Iron Age, etc.



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DISCUSSION OF PITTSBURGH-DES MOINES STEEL COMPANY FABRICATED BEAM TEST

The Technical Director reported on an inspection made on October 8, 1952 of a series of paint exposures on fabricated steel I beams at the Pittsburgh-Des Moines Steel Company at Neville Island, Pittsburgh, Pennsylvania.

This test was composed of a series of vinyl systems and alkyd systems applied to wire brushed, flame descaled and grit blasted surfaces. The primers in each case contained red lead pigmentation. An outline of the program and the complete inspection data are attached to these minutes as APPENDIX B.

After thirty-three months exposure the inspection data showed:

- 1) The systems containing alkyd vehicle primers containing a 75/25 red lead, iron oxide pigmentation performed as well as the straight vinyl systems on equivalent surfaces.
- 2) All of the paint systems showed better overall performance on the grit blasted and fire descaled surfaces than they did on the wire brushed surfaces.

RECOMMENDED SYSTEMS FOR PROTECTION OF GAS METERS OF UNITED GAS CORPORATION

The Committee was informed of a request from the United Gas Corporation of Shreveport, Louisiana for recommended paint systems for domestic gas meters. This request was received from Mr. W. F. Brickell, Research Engineer at the United Gas Laboratories. The following are pertinent excerpts from Mr. Brickell's letter.

"We are in the process of overhauling our painting program for domestic gas meters and would appreciate your recommendation of a paint application which can be expected to protect iron, aluminum, and tin case meters for a period of 10 years with a minimum loss of surface sheen. Since all our meters now have an aluminum finish coat, it is highly desirable that we continue to use aluminum as a top coat. However, other type finishes are not ruled out, and some will be tested in service."

"Our requirements cover meters located in areas which vary widely in moisture and temperature conditions as well as industrial atmospheres."

"It is our purpose to standardize, eventually, on a single paint system that best fits our overall requirements, provided it is possible to do so."

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"Our plan is to place in service, in representative areas, a number of meters painted according to the manufacturer's recommendations. These will be in competition with other manufactured paints which will receive the same weathering treatment. How these paints withstand the weathering in service for a number of years will largely determine the paint system we will set up as a standard. It is intended that this standard will carry our own specifications and may be supplied by any manufacturer meeting our specifications."

Upon consideration of this problem the committee members suggested the following paints for test on the meters.

Primers: Federal Specification T7-P-86a, Type III
 L.I.A. Formula 4-5
 L.I.A. Formula 6-14

Finish Paints: An aluminum-alkyd finish paint identical to that used in L.I.A. Project No. 14. Maine State Highway Commission Bridge Division Specification.

Formulations

Federal Spec. T7-P-86a, Type III

Red Lead	99.7%
Aluminum Stearate	0.3
	<u>100.0%</u>

Alkyd Resin Solution	84.0%
Aromatic Petroleum Spirits	14.5
Cobalt Naphthenate	0.3
Antioxidant	1.2
	<u>100.0%</u>

Pigment = 67.3%
 Vehicle = 32.7%
 Wt/Gal. = 19 lbs.
 PV = 38

L.I.A. Formula 4-5

Red Lead	55.0%
Litharge	14.0
Nica	30.0
	<u>100.0%</u>

Castor Oil Modified Alkyd	71.0%
Mineral Spirits	27.6
Lead Naphthenate	1.2
Manganese Naphthenate	0.2
	<u>100.0%</u>

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Pigment = 51.5%
 Vehicle = 45.5%
 Wt./Gal. = 13.9 lbs.
 PV = 33%

Lt. A. Formula 6-1h

Red Lead 75.0%
 Siliceous Iron Oxide 25.0
 100.0%

Alkyd Resin Solution 66.6%
 Pet. Spirits and Driers 33.4
 100.0%

Pigment = 62.5%
 Vehicle = 37.2%
 Wt./Gal. = 16.0 lbs.
 PV = 30

Aluminum Finish Paint

Aluminum Paste 100.0%
 Alkyd Resin Solution (Soya) 52.0%
 Alkyd Resin Solution (Linseed) 24.0
 Mineral Spirits 23.0
 Lead Naphthenate Drier 0.5
 Cobalt Naphthenate Drier 0.5
 100.0%

Maine State Highway Finish Paint

B. C. White Lead 85.4%
 Chrome Oxide Green 14.6
 100.0%
 Linseed Oil 64.2%
 Ester Gum Varnish 4.0
 Petroleum Spirits 29.2
 Liquid Drier 2.6
 100.0%

Pigment = 68.6%
 Vehicle = 31.4%
 Wt./Gal. = 18.2 lbs.
 PV = 32.8

It was suggested that two coats of each primer be exposed under one coat of finish paint.

The Technical Director said he would pass these recommendations on to Mr. Brickell at the United Gas Corporation.

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NEXT MEETING

It was agreed to have another meeting toward the end of January, 1953.

The meeting was adjourned at 3:00 P. M.

C. J. Vander Valk
C. J. Vander Valk
Meeting Secretary

APPENDIX A

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RED LEAD DIVISIONRECOMMENDED PROGRAM AND BUDGET FOR 1953

During 1953 it is planned to stress promotional work through the media of extensive field work and technical publications.

More time will be spent on field contacts with large scale users of red lead paints including government agencies, cooperative research groups and private companies.

A few new Red Lead Technical Letters and several technical articles can be written on the basis of the results of research programs carried out by the Red Lead Technical Committee during the past five years.

No extensive research programs are planned for the coming year. It is planned to confine investigational programs to limited exposure projects on newer type vehicles for red lead primers.

Field Work

Because of the reduced activity by member companies on field work on red lead it is felt that considerably more time should be spent on personal contacts by the association staff. Frequent calls on federal agencies, state highway departments and individual large users of metal protective paints are needed to hold and to attempt to increase the application of red lead paints.

PublicationsRed Lead Technical Letters

Because of the general acceptance and apparent popularity of the Red Lead Technical Letters it is suggested that three new Technical Letters be published in 1953. These would include two based on the best primers developed in the Comprehensive Atmospheric Program (Project No. 14) and one devoted exclusively to primers on new and rusted galvanized iron (Projects 10 and 19). Although the results to date on the Comprehensive Atmospheric Program are not suited to a publication on the entire project, there are several red lead pigmentations in the five basic vehicles that should prove of excellent promotional value.

On March 1, 1953 the systems on rusted and new galvanized iron, and on aluminum coated steel will have been exposed for one year. It will probably be feasible to publicize several of the red lead base primer systems at the end of this period.

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Other Technical Publications

The data included in the above proposed technical letters can be used as the basis of a series of technical papers and magazine articles for presentation to the paint industry and various engineering groups such as the National Association of Corrosion Engineers. It is planned to place the greatest emphasis on papers and publications to technical groups concerned with the specification and use of metal protective paints rather than to the paint industry. Articles are to be written for such publications as Corrosion, Engineering News Record, Iron Age, etc.

Technical Meetings

It is planned to continue attendance at technical society conventions and meetings such as those held by the N. P. V. L. A., Paint Production Clubs, National Association of Corrosion Engineers, A. S. T. M., and American Chemical Society.

It is proposed that the Lead Industries Association continue as a supporting Member of the Steel Structures Painting Council for at least one more year. The technical director has been appointed to the Research Committee of the Council and expects to attend the inspections and meetings of this committee.

We also plan to continue our activities as a member of the Corps of Engineers Advisory Committee on Chromate Pigments.

Proposed 1953 Budget

Consulting Fees	\$ 400.00
Salaries	7,700.00
Social Security Taxes	200.00
Travel Expense	3,700.00
Telephone and Telegraph	300.00
Meetings	1,000.00
Entertainment and Luncheons	350.00
Printing	3,000.00
Illustrations	250.00
Research and Research Materials	1,500.00
Books and Subscriptions	50.00
Association Dues	50.00
Mailing	600.00
Conventions and Exhibits	1,700.00
Office Supplies	200.00
Miscellaneous Expense	500.00
	<u>21,500.00</u>