

## LEAD INDUSTRIES ASSOCIATION

150 LEXINGTON AVENUE 60 East 42nd Street

NEW YORK 17, N. Y.

Pigments and Chemicals Division

### SUBJECT TO REVISION

### RED LEAD TECHNICAL COMMITTEE MEETING

New York, N.Y.

November 19, 1956

A meeting of the Red Lead Technical Committee was held in the offices of the Association on November 19, 1956.

#### PRESENT

L.L. Carrick, Chairman  
Paul Whitford  
O.F. Shobe  
J.O. Johnstone  
R.F. Bates  
E.I. Zimmerman

#### REPRESENTING

Lead Industries Association  
The Eagle-Picher Company  
The Glidden Company  
Hammond Lead Products, Inc.  
National Lead Company  
National Lead Company

Robert L. Ziegfeld, Secretary-Treasurer  
David M. Borcins, Secretary to Committee

The meeting was called to order at 9:45 A.M. with Dr. Carrick presiding.

The minutes of the previous meeting of September 18, 1956, were approved.

### RED LEAD TECHNICAL LETTER NO. 11 - STEEL STRUCTURES PAINTING COUNCIL CRITICISM

The chairman requested the committee's opinion of the criticism to Red Lead Technical Letter No. 11, outlined in a letter dated September 28, 1956, received by R. L. Ziegfeld from Joseph Bigos, Director of Research, Steel Structures Painting Council. (Previously circulated to members of the committee.)

After some discussion, it was felt that the only valid criticism contained in Mr. Bigos' letter was that no reference to commercial blast cleaning is included in Red Lead Technical Letter No. 11. It was pointed out that in the preparation of Red Lead Technical Letter No. 11, the committee had recommended white metal blast cleaning because it is generally recognized as being the best possible method of preparing a steel surface to receive paint and one that would give the maximum paint service life.

The committee, however, felt that because of the widespread use of commercial blast cleaning some reference to this cleaning method be made.



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It was thereupon regularly moved, seconded and unanimously approved that a one-page supplement be issued with the following headings:

Supplement No. 1 to Red Lead Technical Letter No. 11  
Commercial Blast Cleaning

It was further suggested that the Supplement include a reference to our previous recommendations in that they are optimum and that the following quote from Volume 2 of the Steel Structures Painting Council Manual be incorporated:

"A.2 Commercial Blast Cleaning should be employed for all general purposes where a high, but not perfect, degree of blast cleaning is required. It will remove practically all rust, mill scale, and other detrimental matter from the surface. The surface will not necessarily be uniform in color, nor will all surfaces be uniformly clean since the original condition of the surface will affect the final result. If the surface prior to cleaning is in such bad condition that the cleaning when done according to this specification results in a surface unsatisfactory to the owner or unsuitable for very severe service, then Blast Cleaning to "White" Metal should be specified. The advantage of this method of cleaning lies in the lower cost for satisfactory surface preparation for most service conditions."

HIGHWAY SPECIFICATIONS

The secretary reported that he had now received the highway specifications from 38 states.

After some discussion, the committee requested the secretary to review all of the highway specifications received and to tabulate the various states' paint specifications for review at the next meeting.

HIGHWAY RESEARCH BOARD

The question of becoming a member of the Highway Research Board was then discussed. It was generally agreed that we should not join this organization at this time.

It was recommended, however, that the Association attempt to get on the program of one of their meetings and a subject to be discussed would be "Wetting Characteristics of Red Lead Paint."

AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS

The secretary reported that he had requested the American Association of State Highway Officials to send us their current membership list, but was informed their present list is out of date and that a new membership list will be printed and distributed early in 1957.

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RED LEAD TECHNICAL LETTER NO. 12  
HIGHWAY SPECIFICATIONS

The publication of Red Lead Technical Letter No. 12 - Highway Specifications, was approved and it was recommended that the present State Highway Specifications study now being undertaken by the secretary be used in its preparation.

U.S. NAVY'S DESTROYER TESTS ON  
BOTTOM PAINTS

The secretary reported that the drydocking of the U.S.S. Vogelsang, scheduled for November, 1956, had been postponed until December, 1956. This ship is one of three destroyers participating in the U.S. Navy's anti-corrosive shipbottom test painting program.

R. L. Ziegfeld stated that he had just received a copy of the General Specifications for Ships of the U.S. Navy and the primer paint specifications incorporate a number of red lead formulations. Excerpts from the General Specifications follow:

"Where welding has been completed, alkyl red lead primer, formula 116, shall be used in lieu of formula 84, and vinyl red lead primer, formula 119, in lieu of formula 120.....

"Exterior surfaces shall receive a complete second coat of primer, formula 116, except where a vinyl system is specified. Edges, rivet heads, welding, and other protruding objects shall be given an additional coat of primer....

"Galvanized Steel - All galvanized surfaces shall be painted unless painting is specifically excluded elsewhere herein. Surfaces to be painted shall receive one coat of formula 117 and one coat of formula 116. Exterior surfaces shall receive a second coat of formula 116. The specified number of coats of formula 119 shall be used in lieu of formula 116 where a vinyl system is specified.....

"Damaged areas of surfaces where repair with zinc spray or heat applied compound is not required, and painting is required, shall receive one coat of formula 117 and one coat of formula 116 or 119 as appropriate, prior to painting the entire area.

"Paying surfaces of armor exposed to salt water, including butts and seams but excluding areas to be welded, shall be given two coats of primer, formula 116. The outboard side of shell plating in way of armor shall also be given two coats of primer, formula 116 ..... "

CHAIRMAN'S VISIT WITH L. D. GESSOW

The chairman stated that he had been requested by the committee at its last meeting to visit with Mr. L. D. Gessow for permission to visit certain

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individuals in various Navy yards. He reported that arrangements had been made to meet with Mr. Cessow tomorrow, November 20, 1956, in Washington, D.C.

The committee requested that during the chairman's visit to Washington, he visit the headquarters of the Highway Research Board and the American Association of State Highway Officials.

#### CALCIUM PLUMBATE

The secretary reported that he had written the Lead Industries Development Council, Great Britain, for 50 lb. of calcium plumbate and to date had not received a reply.

The chairman then asked the committee for any details they may have on any tests that had been conducted on calcium plumbate.

Paul Whitford reported that his company had some calcium plumbate panels on test at Joplin. He stated that the paints were made up as per TT-P-86a, Types 1, 2 and 3, with calcium plumbate replacing the red lead on a volume basis. The panels were out at 45 deg. south, for 4 years and 7 months, and the results were poor, attested to by a photograph passed among the committee. Application of the paints was according to L.I.A. procedure.

It was the opinion of the committee that further tests be conducted with the thought that the results be published.

#### WETTING CHARACTERISTICS OF RED LEAD

R. P. Bates and E.K. Zimmerman presented to members of the committee a list of paint compositions used in their study of the surface wetting of red lead paints placed on test June 7, 1956, at Perth Amboy, N.J., as per Exhibit "A" attached. (This incorporates a change in the "Surfaces" section from the copy distributed at the meeting.)

Other paints to be tested using the same procedures, as outlined in Exhibit "A" attached, and to whom they were assigned follows:

Dr. Carrick will test the addition of hydroxyl containing compounds in Federal Specification TT-P-86a, Type II paint.

Paul Whitford will place on test at two locations, TT-P-86a, Types I and II, with the addition of 5 per cent lead naphthenate to the vehicle solids, TT-P-86a, Type I with fractionated linseed oil and TT-P-86a, Type I, with 85 per cent linseed oil and 15 per cent thermalized tung oil as replacement for vehicle solids. Control panels of TT-P-86a, Types I and II will be included.

#### PRESENT GALVANIZING PROCESSES AND PROCEDURES

At the request of the chairman, Mr. Morrish, American Zinc Institute, reported on present galvanizing processes and procedures. He stated that as far as he knew the use of zinc-aluminum alloy for galvanizing was confined to continuous coating operations and that an increasing number of companies

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was using this process. Also that white rust is more of a problem with the continuous coating process than with the batch process. Also that the continuous coating process provides a comparatively thin zinc-iron layer with a heavier zinc overlay. The chairman thereupon thanked Mr. Horvick for his assistance.

It was pointed out that the use of proprietary phosphoric acid pretreatment of galvanized surfaces tends to prevent white rust and that wash primer paints afford more protection through more uniform coatings than that provided by direct snub-on treatment. It was also pointed out that many of the problems connected with painting galvanized surfaces may be due to the fact that some galvanizers treat their products to prevent white rust and others do not.

#### L.I.A. PROJECT 19

The inspection report of the panels in L.I.A. Project 19, prepared by Mr. Lominska, was reviewed by the committee.

The secretary was thereupon requested to compare the Red Lead Technical Letter recommendations with the present inspection report and to present the data to the committee at its next meeting.

#### L.I.A. PROJECT 22

The committee suggested that an inspection of the panels in Project 22 be undertaken and E. X. Zimmerman was requested to contact Mr. Lominska to make such an inspection.

#### L.I.A. PROJECT 23

It was reported that the committee is continuing to collect data for this project and adding new paint formulations, including "Blakled" formulations, and possibly calcium plumbate paints.

#### HOT SPRAY APPLICATION

After some discussion, the chairman requested the secretary to secure information from spray equipment companies as to their experiences, if any, with the hot spraying of red lead paint.

#### IMPROVED STORAGE OF RED LEAD PAINTS

The chairman stated that he would report on the results of the work he is doing on improved storage of red lead paste as soon as personnel was available to do the necessary work.

#### 1957 ADVERTISING PLANS

The committee felt it highly desirable to have any trade paper advertising in 1957, if approved, on the new Red Lead Technical Letter No. 12, approved for publication.

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PANAMA CANAL COMPANY

The secretary reported that he had received data concerning the use of red lead paints by the Panama Canal Company, as per Exhibit "B" attached.

NEXT MEETING

It was suggested that the next meeting of the committee be held around January 11, 1957.

There being no further business, the meeting adjourned at 3: 50 P.M.

Respectfully submitted,

*David M. Borcia*  
David M. Borcia  
Secretary to the Committee

Red Lead Technical Committee  
Meeting MinutesExhibit "A"  
November 19, 1956

## SURFACE WETTING OF RED LEAD PAINTS

| Test No. | Paint No. | Paint Composition                       | PANEL NUMBERS |             |             |
|----------|-----------|-----------------------------------------|---------------|-------------|-------------|
|          |           |                                         | S.S.          | S.S.-Rusted | M.S.-Rusted |
| 1        | T5758     | TT-R-86a, Type I                        | 1655          | 1656, D, DD | 1657, D, DD |
| 2        | T5759     | " " " II                                | 1658          | 1659, D, DD | 1660        |
| 3        | T5760     | #2 plus 5% Pb Naph                      | 1661          | 1662        | 1663        |
| 4        | T5761     | #2 " 10% "                              | 1664          | 1665        | 1666        |
| 5        | T5762     | #2 with 1:1-LO:GE2L66NV                 | 1667          | 1668        | 1669        |
| 6        | T5763     | #5 plus 5% Pb Naph                      | 1670          | 1671        | 1672        |
| 7        | T5764     | #2 with 2:1-LO:GE2L66NV                 | 1673          | 1674        | 1675        |
| 8        | T5765     | #2 " 3:1-LO:GE2L66NV                    | 1676          | 1677        | 1678        |
| 9        | T5766     | TT-R-86a, Type III                      | 1679          | 1680        | 1681        |
| 10       | T5767     | #9 plus 5% Pb Naph                      | 1682          | 1683        | 1684        |
| 11       | T5768     | #9 " 10% "                              | 1685          | 1686        | 1687        |
| 12       | T5769     | #9 with Kerosene for MS                 | 1688          | 1689        | 1690        |
| 13       | T5770     | #12 plus 5% Pb Naph                     | 1691          | 1692        | 1693        |
| 14       | #9        | applied to Mist Coated surfaces         |               | 1694        | 1695        |
| 15       | #9        | " Saturated Surfaces                    |               | 1696        | 1697        |
| 16       | #9        | " Mist surface*                         |               | 1698        | 1699        |
| 28       | #9        | " Saturated Surface*                    |               | 1729        | 1730        |
| 17       | T5771     | #9 with Callosolve for $\frac{1}{2}$ MS | 1700          | 1701        | 1702        |
| 18       | T5772     | #2 with R20 misc. oil                   | 1703          | 1704        | 1705        |
| 19       | T5773     | RL in DCU allyd (LIA-27)                | 1706          | 1707        | 1708        |
| 20       | T5774     | RL in DOL allyd                         | 1709          | 1710        | 1711        |
| 21       | T5775     | #9 with 10 for RL                       | 1712          | 1713        | 1714        |
| 22       | T5776     | #9 with MSO for RL                      | 1715          | 1716        | 1717        |
| 23       | T5777     | #22 plus 5% Pb Naph.                    | 1718          | 1719        | 1720        |
| 24       | T5778     | #22 " 10% Pb Naph.                      | 1721          | 1722        | 1723        |
| 25       | T5121     | RL in Epon-Polyaxid                     | 1724          | 1725        | 1726        |
| 26       | #17       | applied to water wetted metal           |               | 1727        |             |
| 27       | #18       | " " " "                                 |               | 1728        |             |
| 29       | T5785     | RL in AC33                              | 1731          |             | 1732        |

- \* 1:1-Boiled oil:HV, MS
- \* 1:1-Refined Fish Oil:HV, MS

Note: Where extra lead naphthenate has been added, its non-volatile portion replaces an equivalent volume of raw oil where present or allyd resin in the case of TT-R-86a, III.

EXPOSURE: Perth Ambry, N. J. on June 7, 1956

APPLICATION: By brush at 2 mils dried film thickness.

SURFACES: 1. Clean sandblasted hot rolled 6"x12" - 14 gauge plate  
-one to a paint  
2. Same treatment as above but allowed to rust 100% after which they were hand wire brushed.  
-three to a paint  
3. Solvent washed mill scale carrying plates allowed to rust 50-70% of their surfaces. They were then wire brushed.  
-three to a paint

11-15-56

R. P. Bates

N2797.01

Red Lead Technical Committee  
Meeting Minutes

C O P Y

Exhibit B  
November 19, 1956

PANAMA CANAL COMPANY  
CANAL ZONE  
Pacific Branch  
Locks Division

Pedro Miguel, C. Z.  
March 2, 1956

MEMORANDUM TO CHIEF, LOCKS DIVISION:

Use of Red Lead Primers at  
Pacific Locks

(Re: Letter from Lead Industries Ass'n., 6/10/55)

The following data is submitted concerning our use of red lead primers:

- a) Formula 116, Stock No. 0800457 (Bu. Ships Formula, per Mil. Spec. 0800457, and Lead Ind. Assn. Form No. 8-7).

Pacific Locks has not used this paint, primarily because it is not practical to clean surfaces to the degree required for successful use of the paint.

- b) Formula 8-5, Stock No. 0800522 (Lead Ind. Assn. Formula 8-5).

This paint has been used at Pacific Locks since January 1955 for priming of all steel surfaces except those using a bituminous coating.

The equipment so painted include Miraflores Bridge, towing locomotives, locomotive cranes, Miraflores Spillway (superstructure steel), bridge over Rio Grande below Miraflores Spillway, walkway structure on miter gates, operating machines in tunnels, interior and exterior piping, and miscellaneous interior and exterior steel parts such as vents, light poles, manhole cover plates, etc.

Preparation is by chipping by hand or pneumatic tools, and hand wire brushing. We have no sand blasting facilities.

Two brush coats of the red lead are normally applied, followed up by two brush or spray coats of base gray enamel (Navy Formula 5-H).

Repainting is normally done at four to six year intervals, except towing locomotives which are repainted at about two year intervals due to mechanical abuse of painted surfaces. Insufficient time has elapsed since Formula 8-5 Red Lead has been used to determine its life. Its performance thus far has been satisfactory.

Prior to the use of the Formula 8-5 red lead, we used a red lead primer mixed at the Locks. It was very effective; however cost was high, loss was relatively great due to settling out of pigment and lack of regrinding equipment, and drying time was excessive. The change to Formula 8-5 was made as a compromise, to obtain a more rapid drying primer which could be successfully utilized without entailing an excessive increase in time and labor of surface preparation.

/s/ T. E. Boehke

TEN:jz

T. E. BOEHKE  
Superintendent, Pacific Branch  
Locks Division

N2797.02