

LEAD INDUSTRIES ASSOCIATION

480 LEXINGTON AVENUE

NEW YORK 17, N. Y.

Pigments and Chemicals Division

SUBJECT TO REVISION

RED LEAD TECHNICAL COMMITTEE MEETING

New York, N. Y.

April 10, 1956

A meeting of the Red Lead Technical Committee was held in the offices of the Lead Industries Association on Tuesday, April 10, 1956.

PRESIDENT

L. L. Carrick, Chairman
R. F. Bates
J. C. Johnstone
Paul Whitford

REPRESENTING

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

Robert L. Ziegfeld, Lead Industries Association
Secretary-Treasurer

Leighton W. Boll, Lead Industries Association
Secretary to the Committee

The meeting was called to order at 10:00 A.M. with Dr. Carrick presiding.

TECHNICAL LETTER NO. 11

The committee discussed a draft that had been submitted for Red Lead Technical Letter No. 11, pertaining to surface preparation. It was pointed out that both the Steel Structures Painting Council and the National Lead Co. had recently published material devoted to the same subject. Inasmuch as the latter embraced in condensed form much of the material that was contained in the Steel Structures Painting Council publication, the committee felt that it might serve as a source for the Red Lead Technical Letter. It was agreed that appropriate reference should be made to the Steel Structures Painting Council publication as a source of basic and more detailed information on surface preparation.

It was suggested that inasmuch as both of the above publications had been recently released that it might be more effective for the committee to temporarily withhold release of Letter No. 11. Dr. Carrick offered to submit a manuscript comprising Letter No. 11 for consideration by the committee before the Association's Annual Meeting April 24-25. A copy edited by the secretary to conform to Association publication policies and practices will be submitted to the committee for review and approval prior to publication. It was decided for the time being not to use all the material that had been prepared by Mr. Cherry.

TECHNICAL LETTER NO. 12

The formulations of red lead paint for painting on galvanized surfaces



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to which litharge is added at the time of use (based on L.I.C. Project 22) were discussed for possible use as Red Lead Technical Letter No. 12. Mr. Bates reported that the test paints applied to new solvent washed galvanized steel panels had been exposed for 16 months. Failures in the form of cracking were observed on a few panels at this time. Inasmuch as failures developed with each type of vehicle used, the committee agreed that it should delay preparing a Technical Letter until additional weathering data is obtained.

Dr. Johnstone pointed out the greater reactivity of fumed litharge compared with milled (one-quarter lb. of fumed lead is approximately equivalent to two lb. of milled) and that this might have a bearing on the performance of the formulations.

L.I.C. PROJECT 23

Project 23, based on red lead pigmented synthetic vehicle paints is continuing. All test paints have not as yet been put on exposure at the Sayville site. Glidden and Eagle-Picher are still preparing paints for the project. Mr. Whitford indicated that Hysolcon base vehicle paints are still under development with present indications such that they should be included in the project.

SPECIFICATIONS REFERENCES

The question arose in connection with reference to specifications in publications detailing paint formulations as to whether the specification referred to therein should be revised to indicate the latest designation. It was decided not to attempt to update the specifications in future publications unless the revisions are known to be solely editorial in nature. References should be made to the basic specification and the latest revision in force at the time of the original publication of the formulations. In comparing Federal Specification TT-R-266 and TT-R-266a it was found that differences were sufficiently minor to warrant changing references to the latest revision (266a) in subsequent publications without affecting the formulations.

RE-ISSUANCE OF RED LEAD TECHNICAL LETTER NO. 5

The committee studied Red Lead Technical Letter No. 5, RED LEAD VINYL AND COUMARONE TYPE PAINTS, with respect to re-issuing it, revising it, or discontinuing it inasmuch as less than one year's supply was available. It was concluded that essentially the same information, with additions, is offered in Red Lead Technical Letter No. 6. Therefore, there was no need for re-issuing No. 5. Instead, it will be listed as available and when the supply is depleted, No. 6 will be substituted with an appropriate covering letter explaining the substitution.

QUESTIONABLE ADVERTISING CLAIMS

Questionable claims with regard to advertising in current trade and consumer literature by Rust-Oleum were discussed. No observations were made by committee members such as to warrant the initiation of restraining action by the Association.

CASE HISTORIES

Inasmuch as previous efforts to obtain case history-type data pertaining to performance of red lead had been unsuccessful, Mr. Liefeld suggested that the

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committee consider publication of Red Lead Technical Letters devoted to specific applications, e.g., water tanks, highway bridges, railroads, ships, etc., giving L.A.A. recommendations and case histories. Such Letters would point up recommended practices for red lead applications in these specific fields and support the recommendations with case history-type information. The committee concurred with this suggestion and submitted the following subjects as possibilities:

New York Central Bridge over the Niagara River.
L. and N. Bridge over the Mississippi in Cincinnati.
State-maintained highway bridges.
Barnegat Bay Bridge.

The following individuals were suggested as contacts:

John Bockel, Chief Bridge Enggr.
New York Central Railroad
230 Park Ave.
New York, N. Y.

C. L. Crockett
Norfolk and Western Railway
Roanoke 17, Va.

F. H. Bumann
Jersey State Highway Commission
State House Annex
Trenton, N. J.

V. E. Amepacher
Pennsylvania Railroad
1609 Broad St. Station
Philadelphia, Pa.

L. S. Crans
Southern Railway System
Box 233
Alexandria, Va.

C. W. Preston
Baltimore and Ohio Railroad
Baltimore 23, Md.

E. L. Schmidt
Pa. State Highway Commission
118 State St.
Harrisburg, Pa.

R. M. Harlow
and
L. T. Muckles
C & O Railway
823 East Main St.
Richmond 10, Va.

NOT STACK PAINTING

Mr. Layard's letter from The Steel Company of Canada, Ltd. was reviewed by the committee (Exhibit A). It was pointed out that up to 200°F. the formulation he suggested should perform satisfactorily. Above this temperature no present red lead-based formulation would be recommended. Meanwhile, the committee initiated a test program under Dr. Carrick's direction to evaluate the formulations submitted under controlled conditions. The committee felt that the problem posed by Mr. Layard was imperfectly understood inasmuch as conventional stack temperatures are considerably higher than 200°F. The performance of a paint on stacks operating at temperatures above 500°F. is primarily a question of vehicle composition and its rate of breakdown. It was suggested that perhaps silicones might be considered. The secretary was instructed to reply to Mr. Layard's letter on the basis of the above discussion. (Exhibit B).

NOT SPRAY RED LEAD APPLICATIONS

Mr. Zieffeld presented for the committee's consideration a paper entitled "Refinery Paint Program to Cut Maintenance Costs" by R. J. Hafften, W. L. Noman, and E. R. Walston which had been presented at the Twelfth Annual Meeting of the

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National Association of Corrosion Engineers in New York. The authors of the paper pointed out that there were decided advantages in favor of the hot spray application of paint. The committee concurred that this might offer some possibilities and should be explored further. Dr. Carrick agreed to write to the authors for additional information and Mr. Whitford agreed to check in his files for prior information on this subject.

PROJECT 14

The committee agreed that an effort should be made to conclude the evaluation of Project 14. The secretary was instructed to contact Mr. Shobe with regard to data and panels on the New Orleans exposures.

IMPROVED RED LEAD PASTE

Mr. Bates suggested that the committee consider the problem caused by the setting up of conventional red lead linseed oil paste during storage. The suggestion was made that the substitution of mineral spirits or similar material for all or part of the linseed oil might offer a satisfactory solution, the linseed oil being added immediately before use. Dr. Carrick suggested the possibility of utilizing dry powders to be mixed with water on the site. He indicated, however, that problems connected with corrosion remained to be overcome. Dr. Carrick agreed to explore the entire question further.

FLAKED LEAD

Correspondence with Mr. Hahn of Metaload Products Corp. with regard to the addition of flaked lead in red lead formulations was reviewed by the committee. Mr. Whitford pointed out that Earle Picher had been sufficiently interested in the possibilities of such addition to initiate an exposure program. The primer sample paints submitted by Mr. Hahn were not showing up well after 21 months exposure but those that were top coated were in excellent condition. Mr. Whitford suggested that we inform Mr. Hahn that at this time the weathering of all samples, controls and test samples which were top coated are in good condition; but that it would be premature to make any statements in regard to the primer coats.

The committee concurred that further testing was in order and that an interim report should be submitted to Mr. Hahn by the secretary, indicating that duplicate exposures, solvent washed and lithoform treated, had been set out and that after 21 months exposure the top coated areas were performing satisfactorily (Exhibit C).

NEXT MEETING

The committee decided to arrange tentatively for the next meeting during the first week in June with the first day to be spent at the Sayville Testing Station and the second at the L.I.C. office.

The meeting was adjourned at 4:10 P.M.

Respectfully submitted,

Kempton H. Roll
Kempton H. Roll
Secretary to the Committee

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Exhibit A
April 10, 1956

COPY

STEELCO

THE STEEL COMPANY OF CANADA, LIMITED

General Offices

HAMILTON, CANADA

December 20, 1955

Our File - F3/4

Lead Industries Association,
420 Lexington Avenue,
New York 17, N. Y.

Gentlemen:

Red Lead Paint

.....

Many paints sold as being heat resistant have little or no rust inhibiting ability and when the equipment is shut down corrosion proceeds. From test patches painted on hot stacks we find that red lead primers are more durable when subject to weather exposure than Heat Resistant Enamel, U.S. Federal Specification TT-X-496 Type II. We believe that the quenching action of cold rain is a contributing factor in the short life of heat resistant finishes outdoors and that the oil or partially oil type vehicles have an advantage in the lower temperature ranges (below 200°). Stacks falling in this category have required painting every 2 to 2-1/2 years. We are hoping to raise the service life of the paint coating. Iron materials considered for test when repainting next spring is a red lead black which we would obtain by modifying our attached formula MP-C-32. Zinc oxide would be replaced by 30% carbon black and 6% litharge.

An additional variation might be obtained by thinning with cottonseed or soybean oil instead of mineral spirits. The basic formula is rather heavy, running 100% Krebs units in recent batches, so that thinning is required even for brush application.

We would appreciate your comments and would recommend hot stack painting as a problem worthy of investigation.

Yours very truly,

THE STEEL COMPANY OF CANADA, LIMITED

s/ C. P. Layard

C.P. LAYARD,
Planning & Development Engineer

CPL/LST/MD
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Exhibit A
April 10, 1956

C O P Y

THE STEEL COMPANY OF CANADA, LIMITED

General Offices

MILTON, CANADA

DESCRIPTION AND SPECIFICATIONS - MP-C-32

MATERIAL: Red Lead Paint Orange

Composition:	Pounds - Ga.	Gallons
Red Lead 95% Type TT-A-191 Type I Grade B	820	9.21
Zinc Yellow TT-L-415	150	4.34
Zinc Oxide TT-L-301	150	2.68
Fibrous Magnesium Silicate TT-M-90	180	6.31
Diatomaceous Silica U.S. Mar. & Spec.		
52-MC-522, Type I	140	7.00
Aluminum Stearate Navy Spec. 52 - 12	6	.6
Raw Linseed Oil, TT-O-369	380	40.8
Olyptol 2466 Solution or Approved Equal	270	28.4
Mineral Spirits TT-T-291, Grade I	30	3.81
Lead Naphthenate (24% Pb) TT-D-643 Type I	15 - 5	1.30
Cobalt Naphthenate (6% Co) TT-D-643 Type II	1 - 9	.16
Manganese Naphthenate (6% Mn) TT-D-643 Type III	1 - 8	.16

Theoretical Total Approximately 104.8 Gallons.

P.V. = 30.44 + 89.04 = 119.48

Add sufficient anti-skinning agent to be effective. "Wittin" agents may be used. IT Specifications are U.S. Federal.

Reichhold Chemicals Backosol P-296-70 is approved. Approval for other resin solutions may be obtained from the Office of the Chief Engineer.

The paint shall show no thickening, curdling, gelling or hard caking when stored for 6 months in full, tightly covered container at a temperature of 70° to 90° F.

Stencil container under a bail-lug "Red Lead Paint Orange MP-C-32".

If used for painting in cold weather or to compensate for material variation the quantities of driers may be increased up to 50% at the factory or by mixing on the job.

When an increase in drier is made at the factory, labels will contain "Drier Increased - 3".

At time of application thin with mineral spirits if necessary in order to apply a film of 1-1/2 to 2 mils. (.0015 to .002") thickness when dried on a smooth hard surface.

This formula is based on weight. Imperial Gallons, equal to 1.8 U.S. Gallons are shown for convenience of formula comparison only.

ENGINEERING DEPARTMENT

August 17, 1956.

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Exhibit B
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EXHIBIT

April 18, 1956

Mr. C. P. Leyard
Planning & Development Engineer
The Steel Company of Canada, Ltd.
Hamilton, Canada

Your File - P1/a

Dear Mr. Leyard:

You will be interested to know that the Red Lead Technical Committee of the Lead Industries Association discussed your recent correspondence at a meeting of the committee on April 10.

After having had an opportunity to study your comments, it was felt by the committee that the formulation you suggest should perform satisfactorily up to 200°F. (We are assuming that the temperatures you refer to in your letter are in Fahrenheit and not Centigrade scales.) Above this temperature the committee would not recommend any present red lead base formulation.

It is quite likely that your problem is imperfectly understood by the committee inasmuch as conventional stack temperatures, in this country at any rate, are considerably higher than 200°F. The performance of a paint on stacks operated at temperatures above 500°F. is primarily a question of vehicle composition and its rate of breakdown. The committee suggests that perhaps silicones might be considered as a possibility. Meanwhile, under the direction of Dr. L. L. Carriek, chairman of the committee and consultant to the Association, the committee has initiated a test program to evaluate under controlled conditions the formulations submitted in your letter. We will keep you advised as to progress.

The committee asked me to express their appreciation for your interest in this subject and to thank you for bringing it to their attention.

Yours very truly,

s/ Kempton H. Roll

Kempton H. Roll,
Secretary to the Pigments and Chemicals
Division

KLR:aw

N2773.02

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Exhibit C
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April 18, 1956

Mr. L. W. Kahn, Pres.
Metaload Products Corp.
Mills Building
San Francisco 4, California

Dear Mr. Kahn:

Your recent correspondence with the Lead Industries Association on the subject of incorporation of flaked lead in red lead formulations was, as you know, put before the Red Lead Technical Committee of the Pigments and Chemicals Division. At the last meeting of this committee on April 10 an interim report was submitted. The committee found that duplicate exposures, solvent washed and lithoform treated, showed the top coated areas of both controls and flaked lead to be performing satisfactorily. Continued exposure is desirable, however, before a final evaluation can be made.

Meanwhile, the committee asked me to express their appreciation for your interest in this program and to thank you for your cooperation. We will keep you advised as the program progresses.

Yours very truly,

s/ Kempton H. Roll

Kempton H. Roll,
Secretary to the Pigments and Chemicals
Division

KUR:mr

N2773.03