

LEAD INDUSTRIES ASSOCIATION

488 LEXINGTON AVENUE

NEW YORK 17, N. Y.

RED LEAD DIVISION

for information

July 1, 1948

To the Members of the Red Lead Technical Committee

SUBJECT: Cooperative Project with the Navy on
Bottom Paint Systems.

Attached is the information submitted to the Bureau of Ships for a cooperative project on anti-corrosive red lead paints for total immersion in sea water. These paints are to be applied under the Navy's latest hot and cold plastic antifouling paints.

Very truly yours,

C. J. Vander Valk
C. J. Vander Valk
Technical Director
Red Lead Division



REPORT OF INSPECTION OF L. J. A. PAINE'SON DAM GATES-UPPER MISSISSIPPI RIVER

The test paint systems on Dam 25 at Cap An Bris, Missouri and Dam 26 at Alton, Illinois were inspected on April 2, 1948 by the group of individuals listed below. This inspection was made possible through the cooperation of the St. Louis District office of the Upper Mississippi Valley Division, Corps of Engineers, Department of Army.

Although inspection ratings were made on both of the dams, the data in this report are limited to Gates 10 and 11 of Dam 25 since L.J.A. are contained thereon.

A detailed description of the paint tests on the lock and dam structures is contained in a report published September, 1947 by the St. Louis office of the Upper Mississippi Valley Division.

PRESENT AT INSPECTION

G. Diehlman	National Lead Co.	W. E. Shaw	National Lead Co.
A. J. Eickhoff	National Lead Co.	T. Wells	Bakelite Corp.
A. C. Goets	Eagle-Picher Co.	R. Whiting	Bakelite Corp.
J. A. Knittle	U. S. Engineers	C. J. Vander Valk	Lead Industries Association
L. O'Hain	U. S. Engineers		

COMPOSITION OF L. I. A. PAINTS
IN UPPER MISSISSIPPI VALLEY DAM TESTS

L.I.A. PAINT NO.	AVERAGE 29 MONTH RATING	Pigmentation		VEHICLE	
		L.I.A. NO.	COMPOSITION	L.I.A.	COMPOSITION
1	6.5	P-5	Red Lead 45% Zinc Oxide 10% Iron Oxide 30% Asbestos 10% Cellite 5%	V-15	60 gallon phenolic varnish. Bz296) in dehydrated castor oil(67%), fish oil(33%)
3	9.37(2 cts #3, 2 cts A.L.-phenolic Finish)	P-5	Red Lead 45% Zinc Oxide 10% Iron Oxide 30% Asbestos 10% Cellite 5%	V-14	60 gallon phenolic varnish. Dures 420 in bodied linseed oil of 22 viscosity
4	8.5	P-6	Red Lead 70% Zinc Oxide 10% Iron Oxide 10% Asbestos 7% Cellite 3%	V-14	60 gallon phenolic varnish. Dures 420 in bodied linseed oil of 22 viscosity
6	9.25(A.L.-Phenolic Finish) 8.5(White Lead-Zinc Oxide-Phenolic Finish)	P-6	Red Lead 70% Zinc Oxide 10% Iron Oxide 10% Asbestos 7% Cellite 3%	V-16	60 gallon phenolic varnish. Bz 296) in synthetic conjugated oil.
108	1.75	P-72	Red Lead 50% Zinc Oxide 10% Zinc Chromate 10% Asbestos 20% Dicalite 10%	V-53	33 gallon phenolic varnish. Bz 296) in dehydrated castor oil

Dam No. 25 -- Cap Au Gris, Missouri

Roller Gates No. 10 and No. 11, Outside Surfaces

Rating Code - 10 Perfect
0 Complete Failure

Inspection: 4/2/48

Gate No. 10

Ratings

Panel No.	Paint System	Waterline Area		Submerged Area		Average Rating
		General Corr.	Rivet Head Corr.	General Corr.	Rivet Head Corr.	
3b	Exposed 10/45 2 coats LIA #1 (Red Lead-Zinc Yellow- Iron Oxide-Ext. Alkyd-Phenolic Vehicle) 2 coats (Aluminum-Phenolic (E-25))	94	8	10	10	9.37
3a	Exposed 10/45 3 coats LIA #1 (Red Lead-Zinc Yellow- Iron Oxide-Ext.; Alkyd-Oxmar, Phenolic Vehicle) 1 coat LIA, W.L.-ZnO; Phenolic	8	6	10	10	8.5
4	Exposed 1939 Chemical Rust Inhibitor 1 coat (Synhibit-Zinc Yellow Primer) 2 coats (Synhibit Aluminum Finish)	6	4	9	9	7.25 Topcoat practically gone
5A	Exposed 10/45 2 coats (Iron Oxide-Zinc Yellow- Ext.; Phenolic-Linear Oil Vehicle) 2 coats (Aluminum-Phenolic (E-25))	10	9	10	10	9.87
5B	Exposed 10/45 4 coats (Iron Oxide-Zinc Yellow- Ext.; Phenolic (E-25)-Linear Oil Vehicle)	10	7	10	10	9.25
6A	Exposed 10/45 4 coats (Iron Oxide-Zinc Yellow- Ext.; Phenolic (E-25)-Linear Oil Vehicle) "Wood Tan" added to third and fourth coats	10	7	10	10	9.25

Gate No. 10 (Cont'd)

Panel No.	Paint System	Ratings				
		Waterline Area		Submerged Area		Average Ratings
		General Corr.	Rivet Head Corr.	General Corr.	Rivet Head Corr.	
6B	Exposed 10/45 Same as 5B but "Wood Tex" added to third and fourth coats	9	8	10	10	9.25
7A	Exposed 10/45 2 coats (Iron Oxide-Zinc Yellow-Ext.) Phenolic (P-25)-Linseed Oil Vehicle 2 coats (Aluminum-Phenolic (Z-25))	10	8	10	10	9.5
7B	Exposed 10/45 Same as 7A but methyl isobutyl ketone into third and fourth coats	9	7	10	10	9.0
8	Exposed 10/45 Same as 5A but first coat sand reinforced and extra phenolic varnish (A) added	9+	8	10	10	9.37
9	Exposed 10/45 Same as 5A but second coat modified with extra phenolic varnish (E)	9	7	9	9	8.5
10A	Exposed 1939 1 coat (Red Lead-Zinc Yellow-Ext.) Phenolic (Z-25)-Linseed Oil 2 coats (Aluminum-Phenolic (Z-25))	4 Topcoats gone	4	4	6	4.5
10B	Exposed 1939 Same as 10A but Chemical Rust Inhibitor used	6 Topcoats gone	5	7	6	6.0
10C	Exposed 1939 1 coat (Red Lead-Zinc Yellow-Ext.) Phenolic (Z-25)-Linseed Oil 2 coats (Aluminum-Phenolic (Z-33))	5 Topcoats gone	6	6	5	5.5
10D	Exposed 1939 Same as 10C but Chemical Rust Inhibitor used.	4 Topcoats gone	4	5	4	4.25

Gate No. 10 (Cont'd)

		Ratings				
		Waterline Area		Submerged Area		
Panel No.	Paint System	General Corr.	Rivet Head Corr.	General Corr.	Rivet Head Corr.	Average Rating
11A	Exposed 1939 1 coat (Red Lead-Zinc Yellow-Ext.; Phenolic (2-25)-Linseed Oil) 1 coat (Zinc Dust-Aluminum-Phenolic (A-25)) 1 coat (Aluminum-Phenolic (2-33))	4 Topcoats gone	4 Topcoats gone	4	6	4.5
11B	Exposed 1949 Same as 11A but Chemical Rust In- hibitor used	6 Topcoats gone	5 Topcoats gone	7	6	6.0
11C	Exposed 1939 1 coat (Red Lead-Zinc Yellow-Ext.; Phenolic (2-25)-Linseed Oil) 2 coats (Aluminum-Phenolic (A-25))	5 Topcoats gone	6 Topcoats gone	6	5	5.5
11D	Exposed 1939 Same as 11C but Chemical Rust In- hibitor used	4 Topcoats gone	4 Topcoats gone	5	4	4.25

Gate No. 11

Panel No.	Paint System	Ratings				
		Aeroline Area		Submerged Area		Average Ratings
		General Corr.	Rivet Head Corr.	General Corr.	Rivet Head Corr.	
12Aa	Exposed 11/15 3 coats LIA #6 1 coat (Aluminum-Phenolic (E-25))	9	8	10	10	9.25
19A	Exposed 11/15 1 coat LIA #3 (Red Lead-Zinc Yellow-Iron Oxide-Ext.; Alkyd- Phenolic Vehicle) 3 coats (Aluminum-Phenolic (E-25)) Sand reinforcement into second coat	6a	8	8	9	6.75 about 10-6" diameter patches peeled to metal
12A	Exposed 11/15 3 coats LIA #6 (Red Lead-Ext.; Alkyd-Phenolic, Cumar Vehicle) 1 coat LIA #10 (White Finish (White Lead-Zinc Oxide-Phenolic Vehicle)	8	6	10	10	8.5
12B	Exposed 11/15 2 coats LIA #4 (Red Lead-Ext.; Phen. Veh.) 2 coats (Aluminum-Phenolic (E-25))	8	7	10	9	8.5
17A	Exposed 11/15 2 coats LIA #108 (Red Lead-Zinc Yellow-Zinc Oxide-Ext.; Phenolic Vehicle) 2 coats (Aluminum-Phenolic (E-25))	6	7	10	8	7.75
13A	Exposed 11/15 2 coats E. P. 389 (Blue Lead- Basic White Lead Silicate-Zinc Oxide-Ext.; Phenolic Vehicle) 2 coats (Aluminum-Phenolic (E-25))	9	7	10	9	8.87
13D	Exposed 11/15 2 coats E. P. 390 (Blue Lead-Basic White Lead Silicate-Phenolic Vehicle) 2 coats (Aluminum-Phenolic (E-25))	9a	7	10	10	9.12
17B	Exposed 1939 Chemical Rust Inhibitor 2 coats (Red Lead-Alkyd Vehicle) 1 coat (Aluminum-Phenolic (E-25))	8	8	7	8	7.75

Qate No. 11 (Cont'd)

Panel No.	Paint System	Ratings				
		Submerged Area		Submerged Area		Average Rating
		General Corr.	Rivet Head Corr.	General Corr.	Rivet Head Corr.	
17C	Exposed 1939 Chemical Rust Inhibitor 2 coats (Red Lead-Phenolic) 1 coat (Aluminum-Phenolic (2-33))	9	5	10	9 1/2	9.37
		Aluminum Topcoat Gone				
17D	Exposed 1939 Same as 17C but no chemical rust inhibitor	4	5	5	8	5.5
		Aluminum Topcoat Gone				
13A	Exposed 1939-Chemical Rust Inhibitor 1 coat (Iron Oxide-Zinc Yellow-Ext. Phenolic (A-25)) 2 coats (Aluminum-Phenolic (2-25))	4	5	8	7	5.87
13C	Exposed 1939 Chemical Rust Inhibitor 1 coat (Iron Oxide-Zinc Yellow-Ext. Phenolic (A-25)) 2 coats (Aluminum-Phenolic (2-33))	5	5	8	7-	6.12