

EXHIBIT "A"
January 17, 1957

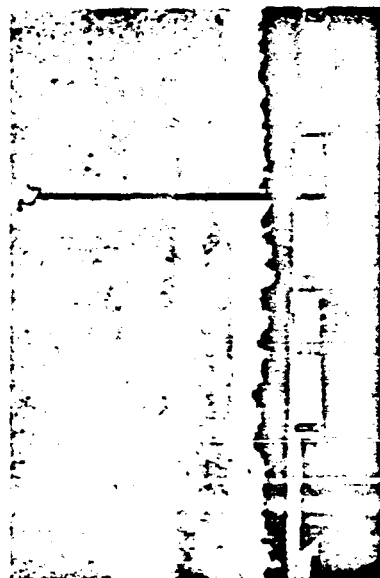
RED LEAD TECHNICAL COMMITTEE MEETING

NATIONAL LEAD COMPANY

PIGMENTS, PAINTS, CHEMICALS

Saville Paint Testing Station

PAINT EXPOSURE REPORT



RED LEAD PRIMERS FOR NEW GALVANIZED IRON OR
WEATHERED GALVANIZED IRON WITH LITHARGE ADDITIONS - LIA #22

PROGRESS REPORT #1



RED LEAD PRIMERS FOR NEW GALVANIZED IRON OR
WEATHERED GALVANIZED IRON WITH LITHARGE ADDITIONS - LIA #22

PROGRESS REPORT #1

Exposed: December 8, 1954 (New Galvanized)
May 19, 1955 (Weathered Galvanized)
Inspected to: December 3, 1956

Panels 6980 - 7000A, AD
Panels 7171-91A

The purpose of this project was to determine the effect of Litharge additions, in varying amounts, to red lead-iron oxide paints on the adhesion of these paints to new or weathered galvanized steel. The Litharge additions ranged from 1 to 6 lbs. Straight linseed oil, straight alkyd, and a mixture of linseed oil and alkyd, were used for the vehicles of the experimental primers. Paints containing zinc dust were included for comparison.

The paints were applied by spray to 12" x 12" panels using two coats of primer over the entire area and a finish coat of an aluminum-cumar paint LIA #379 over the upper half. The primer coats were applied at 1.5 mils dry film thickness per coat and the finish coat at 1 mil. The new panels were cleaned with mineral spirits prior to painting. The weathered panels were cleaned with mineral spirits and then placed out of doors and weathered for a period of six months.

Table I contains a description of the tests and lists the inspection ratings for peeling.

RESULTS:

1. No peeling has developed on any of the tests on weathered galvanized iron.
2. On new galvanized iron, there are indications that Litharge additions to red lead-iron oxide paints do not improve the adhesion of these paints. This conclusion is not final at this time because only a few of the paints have peeling present. However, the failures so far are all among the paints with Litharge additions.

-2-

3. There are more failures among the paints with straight linseed or linseed oil alkyd than among the paints with straight alkyd vehicle.

4. The peeling failures are confined almost entirely to the area of the panels that has three coats.

C. A. Lominska

December 10, 1956

Distribution: Messrs. E. K. Zimmermann (17)
R. L. Whitney
W. A. Gloger
A. J. Eickhoff
R. P. Bates
Dr. J. A. Craine

-1-

TABLE I

Panel No.	Description	Age-Mos.	<u>Peeling on New Galv. Steel</u>						<u>Peeling on Weathered Galv. Steel</u>	
			<u>2 Coat Area</u>			<u>3 Coat Area</u>			<u>2 Coat Area</u>	<u>3 Coat Area</u>
			12	18	24	12	18	24	18	18
<u>Group I</u> Base Formulas: 62% RL - 38% IO Veh: 2 parts LO - 1 part GE2466 Solids 42PV										
6980	Control-No Litharge				10			10		10
6980D	addition									
6981	1 lb. Litharge per gal.				10	10	9	9	10	10
6981D					10	10	9	2	10	10
6982	2 lb. Litharge per gal.				10	10	8	1	10	10
6982D		9	9		8		10	1	10	10
6983	4 lb. Litharge per gal.				10		10	1	10	10
6983D					10		10	1	10	10
6984	6 lb. Litharge per gal.				10			10	10	10
6984D					10			10	10	10
<u>Secondary Controls</u>										
6995	Zinc Dust for I.O. by				10			10		10
6995D	volume in Control									
6997	30% RL-15% IO-55% Zn Dust				10			10		10
6997D	LIA #361									
6999	40% RL-40% Zn Dust-20%				10			10		10
6999D	Chrom. Ox Green LIA 378				10			10		10

Note: Litharge additions replace an equal volume of Iron Oxide.

-4-

TABLE I (CONT.)

Panel No.	Description	Age-Mos.	Peeling on New Galv. Steel						Peeling on Weathered Galv. Steel	
			2 Coat Area			3 Coat Area			2 Coat Area	3 Coat Area
			12	18	24	12	18	24	18	18
<u>Group II</u> Base Formula: 62% RL - 38% Iron Oxide Veh: GE2466 Alkyd-42.4PV										
6985	Control - No Litharge		10			10			10	10
6985D	addition		10			10			10	10
6986	1 lb. Litharge per Gal.		10	10	1	1			10	10
6986D			10		10	1			10	10
6987	2 lbs. Litharge per Gal.		10			10			10	10
6987D			10			10			10	10
6988	4 lbs. Litharge per Gal.		10			10			10	10
6988D			10			10			10	10
6989	6 lbs. Litharge per Gal.		10			10			10	10
6989D			10			10			10	10
<u>Secondary Controls</u>										
6996	Zn Dust for I.O. by Vol.		10			10			10	10
6996D			10			10			10	10
6998	30% RL-15% I.O.-55% Zn Dust		10			10			10	10
6998D	LIA 362		10			10			10	10

-5-

TABLE I (CONT.)

Panel No.	Description	Age-Mos.	Peeling on New Galv. Steel						Peeling on Weathered Galv. Steel	
			2 Coat Area			3 Coat Area			2 Coat Area	3 Coat Area
			12	18	24	12	18	24	15	18
<u>Group III</u>										
Base Formula: 62% ML-38% Iron Oxide										
LO Vehicle-42PV										
6990	Control - No Litharge					10		10		10
6990D	addition									
6991	1 lb. Litharge per Gal.					10	10	10	5	10
6991D						10	10	10	7	10
6992	2 lbs. Litharge per Gal.					10	10	10	7	10
6992D						10	10	10	2	10
6993	4 lbs. Litharge per Gal.					10	10	10	2	10
6993D						10	10	8	2	10
6994	6 lbs. Litharge per Gal.		10	9	9			10		10
6994D			10	9	9			10		10
<u>Secondary Control</u>										
7000	80% Zn Dust - 20% ZnO					10		10		10
7000D	TTP64lb Type I					10		10		10