

LEAD INDUSTRIES ASSOCIATION, INC.

292 MADISON AVENUE

NEW YORK 17, N. Y.

July 26, 1963

SUBJECT: MARKETS FOR LEAD
AND LEAD PRODUCTS

To the Industry Development Committee of
the Lead Industries Association, Inc.:

Attached is the second in the series of memoranda to you
presenting the LIA staff appraisal of various markets for lead
and lead products.

As always, we will welcome your comments in the hope of
approaching our budget discussions later this year most effectively
and expeditiously.

Very truly yours,



RLL:mk
Enc.

Executive Vice President



Look Ahead with Lead

July 26, 1963

MARKETS FOR LEAD AND LEAD PRODUCTSMEMORANDUM NO. 2LEAD-PIGMENTED WATER-REDUCIBLE BASED METAL PRIMERS

In the last few years the trend in metal primer paints for automobiles and other industrial products has been away from the old solvent-thinned paints to paints having water-reducible vehicles. Reasons are several, but most important is to reduce fire and explosion hazards and also, particularly with automobiles, the paint goes on and stays on more evenly under the design and production conditions involved.

The paint industry had a comprehensive knowledge of the formulation, application and performance of the old type primers and the compatibility of lead pigments with them. However, the new primers involve an entirely new technology and it was necessary to find out whether lead pigments are compatible with the new vehicles, how to formulate lead pigments with the new vehicles, and what kind of performance to expect.

Consequently, the International Lead Zinc Research Organization placed a contract several years ago with The Eagle-Picher Company to study these problems. Work has now reached a point where the satisfactory performance of a number of lead pigments has been demonstrated. These pigments include both older types, like red lead, white lead and basic lead chromate, as well as newer pigments, like the silicate, silico-chromate and cyanate.

It must be emphasized that in these new formulations the concentration of lead is much lower than in more conventional primers, such as the red lead-linseed oil types. The new concentrations are in the neighborhood of one-half pound of lead per gallon as compared with 10 or 20 lb. per gallon in some of the older types. However, they are aimed at capturing markets in which little or no lead pigments are now used, since they are baked finishes applied by dipping on industrial products like automobile bodies, air-conditioning housings, steel kitchen cabinets and appliances rather than on structural steel where most of the older lead paints are used.

Any estimate of the potential market is difficult. To get some idea, based on $1\frac{1}{2}$ gal. of paint per automobile at $\frac{1}{2}$ lb. lead per gallon, 1,000,000 cars per year would consume 375 tons of lead, or if used on the entire automobile production of, say, 8,000,000 cars, a total of 3,000 tons. This makes no allowance for use on other mass-produced metal products as previously mentioned, and all these would be almost entirely new markets.

ILZRO has arranged for publication later this year of a summary of the work to date prepared by the research contractor, of which we intend to purchase reprints, and individual representations will be made to the automobile companies. The data has also been made available to L.I.A. for use in advertising and publicity. As a result an ad is appearing as a part of our regular campaign in the paint magazines (see reprint attached). Some inquiries are already being received. Consideration might also be given to getting the story before other manufacturers of metal products. For example, National Lead Co. recently featured dip coating with basic lead silico-chromate water-based primers in "Business Week," the ad picturing dip coating of air-conditioner housings.

Lead Pigments NEWSLETTER

NO. 8

Anticorrosive Lead Pigments in water thinnable ferrous metal primers

An extended series of tests to evaluate the role of lead compounds in water thinnable ferrous metal baking primer paints have produced some outstanding results. About 65 lead compounds considered as anti-corrosive agents were tested. In almost all

instances, the addition of the lead compound to the test formulation improved the rust inhibitive properties of the paint.

The stripped panels of just a few of the test paints containing the more common lead compounds and the non-lead control after 250 hours in salt spray indicate the rust-inhibiting properties of lead additives.

In preparing the test paints, the pigmentation mixture of a water thinnable primer similar to that used in automotive finishing and shown here was replaced in part on a volume basis by the lead pigments or compounds studied. In this way, pigment-volume relationships were unchanged.

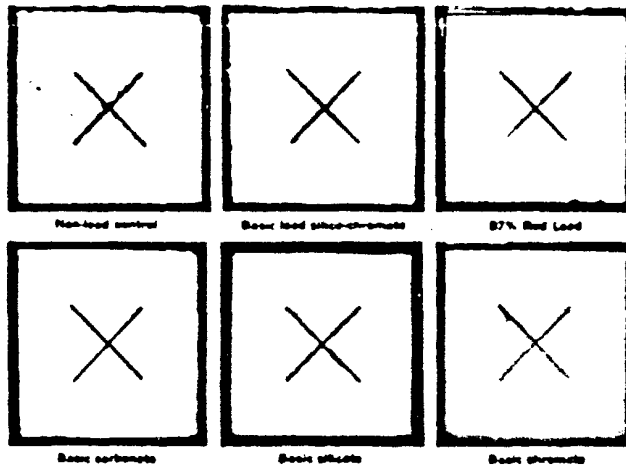
Most of the inorganic lead compounds were added at a weight of compound calculated to introduce 0.5 lb. of lead as the element to each gallon of paint. The test panels were zinc phosphate treated and were coated to a dry film thickness of 0.55 ± 0.05 mil by the use of an RDN laboratory coating rod of the proper size. Films were cured, after surface drying, for 25 minutes at 350°F.

Why not investigate the possibilities of lead additives in water thinnable paints. For a copy of the test results, write to Lead Industries Association, Inc., Dept. B-7, 292 Madison Avenue, New York 17, New York.

Test Formulation

PRESENTATION*	Lb./100 GALLONS
Red Iron Oxide	170.0
Barytes	300.0
Clay	25.0
	495.0
BILL MILL VEHICLE	
Water reduction Alkyd, 47% B. V.	343.0
Organic treated clay	2.0
Manganese Naphthenate, 5% sol.	30.0
Dry Catalyst	10.0
Antifouling agent	1.0
Water, deionized	108.0
	773.0
Slurry adjusted to pH of 9.5 with monoethanolamine.	
LET DOWN	
Lead, 46% B. V.	406.7
(Adjusted to pH 8.4 with ammonia before used)	
Working agent	0.2
Protective colloid	34.8
	441.7
*Partly replaced by the lead additives on a volume basis up to 0.5 lb. per gallon of lead as the element.	
	120.3

Test Panel Results - 250 Hours Salt Spray (Paint film has been stripped)



LEAD INDUSTRIES ASSOCIATION, INC.
292 Madison Avenue, New York 17, New York

Look Ahead with Lead

This advertisement is appearing in:
American Paint Journal—July 15, 1963
Official Digest—August, 1963