

LEAD INDUSTRIES ASSOCIATION

480 LEXINGTON AVENUE

NEW YORK 17, N. Y.

METALLIC LEAD PRODUCTS DIVISION

SUBJECT TO REVISION

METALLIC LEAD PRODUCTS DIVISION

St. Louis, Mo.

April 24, 1956

A meeting of the Metallic Lead Products Division of the Lead Industries Association was held on April 24, 1956 at the Hotel Statler, St. Louis, Mo.

PRESENT

DIVISION MEMBERS

REPRESENTED

G. H. LeFevre, Chairman

F. P. Barton
A. D. Turnbull

J. A. Stone
Morris Foodin

Frederick Walker
W. F. Murdock
P. W. Ruppert
W. J. Welch
R. H. Cutting
C. R. Ince

United States Smelting Refining and
Mining Co. Inc.
The O. A. Avril Co.
The Consolidated Mining and Smelting
Company of Canada Limited
Division Lead Co.
Federated Metals Division
American Smelting & Refining Co.

do
The Murdock Lead Products Co.
National Lead Co.

do
Northwest Lead Co.
St. Joseph Lead Co.

OTHER ASSOCIATION MEMBERS

Harold Hertzog
C. G. Grimes
D. F. Goldsmith
Howard Kovasol
Reuben Viener
L. L. Elsdore
R. M. Quenell

Alpha Metals, Inc.
Electric Storage Battery Co.
Goldsmith Bros. Smelting & Refining Co.
Victory White Metal Co.
Hyman Viener & Sons
Western Lead Products Co.
do

STAFF OF LEAD INDUSTRIES ASSOCIATION

R. L. Ziegfeld, Secretary-Treasurer
D. M. Bercina
H. B. Yetman
K. M. Roll
L. L. Carrick

The meeting was called to order by the chairman at 3:55 P.M.

The minutes of the previous meeting of April 22, 1954 were approved.



Metallic Lead Products
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REPORT OF THE SECRETARY

At the request of the chairman, the secretary, Robert L. Ziegfeld, reported as per Exhibit "A" attached.

REPORT OF THE STAFF

David M. Bercins, Kempton H. Roll and Homer S. Iozman of the Association's staff presented reports on their activities in the Metallic Lead Products Division. (Exhibits "B," "C," and "D" attached.)

PROPOSED L.I.A. STANDARD FOR LEAD AND LEAD ALLOY
PIPE FOR THE CHEMICAL PROCESSING INDUSTRY

The question was then raised as to the advisability and need of a standard such as that proposed. (Exhibit "E" attached.)

After some discussion, the chairman requested the Association to report on the results of the letter ballot sent to members asking to approve or disapprove the proposed standard.

Kempton H. Roll reported six approved, 1 opposed and the rest did not vote.

The chairman stated that inasmuch as there was some opposition, a means of reconciling the various viewpoints should be considered.

It was thereupon moved, seconded and unanimously approved that the chairman appoint a committee to study the proposed standard and to report their findings to the division.

ELECTION OF CHAIRMAN

The chairman asked for nominations for the election of a chairman to serve for the ensuing year. Mr. G. H. LaFevre was thereupon nominated and there being no further nominations, was reelected unanimously.

A motion to adjourn was thereupon made, seconded and unanimously carried at 5:05 P.M.

David M. Bercins
Secretary to Division

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Exhibit "A"
April 24, 1956

REPORT OF ROBERT L. HUNTER, GENERAL MANAGER

Inasmuch as individual members of the staff involved in the work of this Division will report in detail on its past activities, my remarks will be confined to future plans.

Because of the size and importance of the construction industry in all its phases, we are planning to concentrate our efforts more intensively on architects and builders in the future. We have money in our budget already approved to employ some one with architectural and construction background to conduct this work in cooperation with the present staff. For some months we have been looking for the right man, without success, but we hope to find him in the near future. His work will be to help in the preparation of literature for distribution to the construction industry and the architectural profession, and to make personal contact with these people. His efforts will not only be devoted to furthering the use of lead in plumbing but other construction applications as well. With the tremendous size of the construction industry today, an increase of only a few pounds of lead per housing unit, for example, would mean a substantial increase in the consumption of lead. Because of the fact that some structures today use an appreciably larger amount of lead than others in different areas of the country, we believe that the potential is there.

The first step in this direction has already been made by the issuance of Lead Building Construction Bulletin No. 1, copy of which is before you, just off the press.

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Exhibit "B"
April 24, 1956

REPORT OF DAVID H. RESCHER

We recently contacted and received from a plumbing contractor in each of eight cities a report on the amount of lead generally used in their localities in the plumbing for a single bathroom. The results of that survey appear in the attached chart. I am sure that you will agree with us that the market potential is there and all we need do is to take advantage of it. An increase of 10 lb. per bathroom in a construction market of 1,500,000 new starts, many of which have two or more bathrooms, would mean an increased consumption of thousands of tons of lead each year.

One of the best bets we have of creating this potential market is in increasing the use of lead bands or stubs for the connections between the water closet and the rigid piping. For these connections, lead is competitive and has a number of advantages that are not possessed by other materials and which can be exploited. An example of how we are attempting to do this is illustrated by the first of our series of Construction Bulletins. These bulletins are being sent to 17,000 architects and 5,000 general contractors, builders, etc.

Copy for future bulletins is being prepared and will cover sheet lead shower pans, lead vent stack flashings and lead in chemical laboratory plumbing systems. Others are in the discussion stage.

LEAD WORK FOR MODERN PLUMBING

Our educational program among plumbers apprentices is continuing and the textbook which was prepared for this purpose is now in its third printing. A charge of \$1.50 per copy, or \$1.00 each in quantities of ten or more has been placed on the book, and on this basis, more than 5,900 copies have been distributed.

We are continuing our cooperation with the International Apprenticeship program and contest sponsored by the plumbers union and the National Association of Plumbing Contractors. We have been successful in having the training of lead work included as a major part of the practical phase of this program. For example, lead work has been allotted 45 points out of a total of 100 points for the performance projects conducted as a part of the international contest. Competing in this contest are the champion fifth year apprentice of each state and the provinces of Canada. For the past two years I have served as one of the judges of the lead work and have been invited to participate again this year.

SOLDERING HANDBOOK

The sections for the Soldering Handbook, prepared by the solder subcommittee of which I am secretary, have now been submitted to the full Committee on Braising and Soldering of the American Welding Society for review. Prior to submitting the sections to the American Welding Society, copies were sent to all interested members for their comments.

We sincerely hope that by this time next year, we will be able to report the completion of this work.

LEAD AND PLUMBERS' FORUM

Our publication "Lead" and "Plumbers' Forum" continue to publicize the use of lead in the construction industry. These are both very valuable assets to our promotional activities.

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Exhibit "B"
April 24, 1956

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REPORT OF DAVID M. BORCHIA
(Continued)

Each issue of "Lead" includes articles on the use of lead in the building and chemical fields. Our mailing list now totals approximately 30,000 names, 17,000 are architects, 7,000 others in the construction field, and the balance in other lead using fields.

The distribution of "Plumbers' Forum" is confined to the plumbing industry and is sent to more than 24,000 plumbing contractors, educators and journeyman plumbers.

LEAD IN MODERN PLUMBING

We have now distributed more than 24,000 copies of "Lead in Modern Plumbing" since its inception in 1950. The bulk of these were sent to architects and plumbers.

INQUIRIES RECEIVED

Throughout the year we receive literally hundreds of requests for information and literature about lead and its uses. Many of these are simple to handle and process, others require hours to answer. Two examples of the latter which have been received in the past week may be of interest. One is from a consulting engineer in Wichita, Kansas, and the other from an architectural firm in Asheville, N.C., each requesting detailed information on the correct application of sheet lead for roofing in one case and gutter linings and flashings in the other.

These two letters, among others we have received, indicate a very definite interest in the use of lead for architectural purposes and it is sincerely hoped that we will be able to capitalize on what we think may develop into a trend.

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Report of David M. Borsini

AMOUNT OF LEAD USED IN VARIOUS PLUMBING INSTALLATIONS
FOR THE DRAINAGE AND VENT SYSTEM ONLY FOR SINGLE BATHROOM
(In Pounds)

Material	Tulsa	Colorado Springs	Westchester County	Sacramento and Memphis	Chicago, Elgin, Ill. Milwaukee
Bend	12	12	12		
Drum Trap	8	8			
P-Trap			7		
Pipe 1-1/4 1-1/2	56 11	13 11			
Solder	10	6	3		
Calking	36	35	50	60	40
TOTAL	122	85	72	60	40

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Exhibit "C"
April 24, 1956

REPORT OF ELLIOT H. ROLL

Covering the period January, 1955 to the present, my activities devoted to the Metallic Lead Products Division embraced preparation of the following:

Six CHEMICAL CONSTRUCTION BULLETINS to L.I.A. members,
Five LEAD CHEMICAL CONSTRUCTION BULLETINS to a mailing
list of approximately 1,300
The first four of a new series of RADIATION SHIELDING
BULLETINS to a mailing list of approximately 300.

I served, at the request of the directors of the National Association of Corrosion Engineers as General Conference Chairman of the Twelfth Annual Corrosion Conference of NACE and the 1956 Corrosion Show. As a result of the success of this endeavor, coupled with previous activities in the Association, I was nominated to the Board of Directors.

I was elected chairman of the New York Chapter of the American Society for Metals and in this capacity directed the programming so as to include papers on lead and lead alloys.

The responsibility of editing the annual review section on lead and lead alloys published in "Industrial & Engineering Chemistry," the official publication of the American Chemical Society, has been mine. The Ninth such review was published in the September, 1955, issue.

As for the past five years, I delivered a lecture on "Lead As An Engineering Material" before graduate engineers at Newark College of Engineering and am scheduled to do so again in May of this year. A lecture on the Proper Use of Lead for Corrosion Prevention in the Chemical Industry will be delivered next month at the University of Buffalo.

At the Society for Nondestructive Testing Annual Convention, I presented a paper on the "Inspection and Testing of Lead Linings," a subject which heretofore has not been covered in literature.

A McGraw-Hill Handbook on Engineering Materials will soon be published containing a section on lead base materials prepared by myself.

A special report on battery research programs sponsored by the U.S. Signal Corps was prepared and made available to L.I.A. members.

Numerous plant visits were made resulting in the elimination of some corrosion problems involving lead and serving as a source of promotional material for the Association. Innumerable inquiries by telephone, correspondence and in person are regularly dealt with throughout the year. The Association is firmly established as the fountainhead of practical and reliable information on the broad uses of lead, with particular emphasis on chemical construction.

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Exhibit #2
April 24, 1956

REPORT OF HERMAN S. YERMAN

I have selected a few examples that best illustrate what I am doing in promoting the use of lead in plumbing. In each instance, similar problems have been encountered in cities other than those described.

BROOKHAVEN, L.I., N.Y.

This project will total 1,000 houses built with two baths each. I made a survey of the property location and code requirements and called on Greville & Associates, the architects and builders. The owner and architects have agreed to specify 4 in. L.H. lead bands, which is a present code requirement in adjacent territory but does not directly cover this particular property. The result is that 2,000 L.H. lead bands will be used which amount to approximately 15 tons of lead bands and one ton of wiping solder.

We hope to get lead bath traps specified but this is not definite at this time.

AKRON, OHIO

I assisted Mr. George Wetsel of the Board of Education to establish a lead wiping class for plumber apprentices. This is the first lead wiping class in Akron in 20 years.

MICHITA, KANSAS

Had lengthy sessions with the chairman of the W.A.P.C. Plumbing Code Committee. Lead requirements will be included as a separate chapter in what may develop into a national plumbing code sponsored by this important plumbing industry group.

LITTLE ROCK, ARKANSAS

L.I.A. Chemical Laboratory Specifications will be followed on a large chemical laboratory installation at the University of Arkansas Medical Center as a result of lengthy conferences here with the architect, plumbing contractor and the mechanical contractor.

BILLINGS, MONTANA

Meetings with city officials and the Plumbing Code Committee concerning lead water closet waste connections resulted in L.H. lead bands and stubs being a mandatory code requirement. Lead vent pipe flashings and properly protected lead pans are also a code requirement.

NASSAU COUNTY, L.I., NEW YORK

This project "Birchwood Home" will include 2,600 houses with 2, 2-1/2 and 3 baths each. Called on and worked with builders, plumbing contractor, representative of Local Union, and plumbing superintendent in order to get L.H. lead bands specified and used on this rather large copper tube drainage installation.

Boanov & Schwartz are the architects and builders. Morovitz Plumbing Company is the plumbing contractor.

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Exhibit "D"
April 24, 1956

MASSAU COUNTY, L.I., NEW YORK (CONTINUED)

The change has resulted in 44 tons of 3 in. L.H. lead bands being used. 6,600 - 3 in. wiped joints will require 4-1/2 tons of wiping solder, plus the 50-50 wire solder used in sweating the copper tube. A recent survey of work similar to this installation shows us that:

3 in. x 16 in. x 16 in. copper bands cost ----- \$17.34 per unit
3 in. x 16 in. x 16 in. L.H. lead bands cost -- \$13.05 per unit

Lead shows a saving of ----- \$ 4.29 per unit

Other sizes are proportionately equal.

ATLANTA, GEORGIA

Several meetings with the Executive Board of the Plumbers Local Union to have a working rule amended that was detrimental to the use of lead work were held.

NASHVILLE, TENNESSEE

Lengthy conferences resulted in getting L.I.A. Chemical Laboratory Specifications adopted by the State Architect and plumbing contractors.

LOUISVILLE, KENTUCKY

Held a meeting with the Plumbing Division of the Kentucky State Health Department concerning lead work requirements in the State Plumbing Code. We have been successful in maintaining the 6 in. lead required by the code for all fixture wastes.

KENT, OHIO

I investigated the failure of rubber cup washers used for joints in Duriron pipe in a chemical laboratory installation. The local plumber is replacing these with lead calked joints.

SAN DIEGO, CALIFORNIA

I attended and addressed a meeting of the Western Plumbing Officials Association. Also worked with the Code Committee in the interest of retaining properly protected lead shower pans as a code requirement.

COLORADO SPRINGS, COLORADO

Met with city officials to retain lead requirements in the plumbing code which were under attack. As a result, I made a survey that proved lead waste work did not cost any more than less reliable materials.

CHICAGO, ILLINOIS

Have had many meetings, calls and conferences here in the interest of retaining the lead waste service pipe requirements.

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Exhibit "D"
April 24, 1956

REPORT OF HENRY C. YERGAN

BANTLEYVILLE, OCLANWA

I was able to have L.I.A. Chemical Laboratory Specifications used here by Phillips Petroleum Company on their new Chemical Laboratory and Research Building. Although they deviated slightly from our specifications, the plumbing contractor is using upwards of 20 tons of lead laboratory waste pipe on this job.

EXHIBIT FOR NATIONAL ASSOCIATION OF PLUMBING CONTRACTORS

Our exhibit for the N.A.P.C. Exposition in Milwaukee, Wis., June 11 to 14, 1956, has been set up here so that you may see what we plan on showing. The panel on the left was designed to show ready-to-install lead work which has become a very popular item in some areas. The samples shown are from various locations throughout the country.

In the center panel we show an L.H. lead drum trap wiped to a 1-1/2 in. copper tube for the bath trap which is branched into the 3 in. copper tube stack. A recent survey shows that this L.H. lead drum trap cost approximately \$7.00 per unit less than a similar one of brass and copper tubing. A comparison follows:

Brass and copper tube	\$30.20 per unit
L.H. 4 in. lead drum trap	\$23.20 per unit
Saving	\$ 7.00 per unit

Shown also is a 3 in. x 6 in. x 12 in. L.H. lead bend for the water closet floor waste connection. This lead bend shows a cost saving of \$5.76 per unit over brass and copper connection, a comparison follows:

3 in. brass and copper	\$18.39 per unit
3 in. L.H. lead bend	\$12.63 per unit
Saving	\$ 5.76 per unit

If a 4 in. x 3 in. L.H. lead reducing bend is used, the saving would approximate \$3.50 per unit.

On the right hand panel we show the 4 in. cast iron soil stack with lead waste connection for wall hung water closets. This type of fixture, although it costs slightly more than floor waste, can be used in residential work by using the American Foundry support chair and lead connection.

Off the floor wall hung water closets are gaining in popularity for all types of buildings because of their sanitary and easy cleaning qualities.

We have endeavored to make the background for these panels as attractive as possible and also to show what our aims are in apprentice training as well as for the actual plumbing installations. There are several small items of interest included in the exhibit, such as shower pans, vent pipe flashings, and hard lead ferrules for chemical laboratory waste connections.

The lead wiping bench has proven to be an excellent means of drawing attention to our exhibit at past N.A.P.C. conventions and we hope to use it successfully again at Milwaukee in June.

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Exhibit "B"
April 24, 1956

February 3, 1955

PROPOSED

LEAD INDUSTRIES ASSOCIATION STANDARD

FOR

LEAD AND LEAD ALLOY PIPE FOR

THE CHEMICAL PROCESS INDUSTRIES

1. Chemical Specifications:

The chemical composition of lead pipe for the chemical process industries shall conform to the specifications established by the American Society for Testing Materials for chemical, acid or copper grades of lead, A.S.T.M. Designation, latest revision.

Antimonial or hard lead pipe shall be an alloy of lead containing the specified amount of antimony, plus or minus 0.25 percent.

For other lead alloys the quantities of alloying constituents shall be as agreed between the buyer and seller.

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February 3, 1955

2. Standard Sizes of Lead Pipe for the Chemical Process Industries:

Important: Specify by inside diameter and wall thickness. Weights shown are approximate and are based on a lead specific gravity of 11.34, equivalent to a weight of 0.41 pounds per cubic inch. Values apply to chemical, acid, copper and tellurium lead. Antimonial lead pipe will weigh slightly less per foot.

Size Inside Diameter (Inches)	Wall Thickness (Inches)	Outside Diameter (Inches)	Nominal Weight Per Foot (Pounds)	Size Inside Diameter (Inches)	Wall Thickness (Inches)	Outside Diameter (Inches)	Nominal Weight Per Foot (Pounds)
1/4	1/16	3/8	0.3	1 1/4	1/8	1 1/2	2.7
	1/8	1/2	0.7		3/16	1 5/8	4.2
	3/16	5/8	1.3		1/4	1 3/4	5.8
	1/4	3/4	1.9		5/16	1 7/8	7.5
3/8	1/16	1/2	0.4	1 1/2	3/8	2	9.4
	1/8	5/8	1.0		1/2	2 1/4	13.5
	3/16	3/4	1.6		1/8	1 3/4	3.1
	1/4	7/8	2.4		3/16	1 7/8	4.9
1/2	1/8	3/4	1.2	1 3/4	1/4	2	6.8
	3/16	7/8	2.0		5/16	2 1/8	8.8
	1/4	1	2.9		3/8	2 1/4	10.9
	5/16	1 1/8	3.9		1/2	2 1/2	15.5
5/8	3/8	1 1/4	5.1	2	1/8	2	3.6
	1/8	7/8	1.4		3/16	2 1/8	5.6
	3/16	1	2.4		1/4	2 1/4	7.7
	1/4	1 1/8	3.4		5/16	2 3/8	10.0
3/4	5/16	1 1/4	4.5	2 1/2	3/8	2 1/2	12.3
	3/8	1 3/8	5.8		1/2	2 3/4	17.4
	1/8	1	1.7		1/8	2 1/4	4.2
	3/16	1 1/8	2.7		3/16	2 3/8	6.3
1	1/4	1 1/4	3.9	3	1/4	2 1/2	8.7
	5/16	1 3/8	5.1		5/16	2 5/8	11.2
	3/8	1 1/2	6.5		3/8	2 3/4	13.8
	1/2	1 3/4	9.7		1/2	3	19.3
	1/8	1 1/4	2.2	3 1/2	1/8	2 3/4	5.1
	3/16	1 3/8	3.4		3/16	2 7/8	7.8
	1/4	1 1/2	4.8		1/4	3	10.6
	5/16	1 5/8	6.3		5/16	3 1/8	13.6
	3/8	1 3/4	8.0		3/8	3 1/4	16.7
	1/2	2	11.6		1/2	3 1/2	23.2

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Size Inside Diameter (Inches)	Wall Thickness (Inches)	Outside Diameter (Inches)	Nominal Weight Per Foot (Pounds)	Size Inside Diameter (Inches)	Wall Thickness (Inches)	Outside Diameter (Inches)	Nominal Weight Per Foot (Pounds)
3	1/8	3 1/4	6.0	7	1/8	7 1/4	13.8
	3/16	3 3/8	9.2		3/16	7 3/8	20.8
	1/4	3 1/2	12.6		1/4	7 1/2	28.0
	5/16	3 5/8	16.0		5/16	7 5/8	35.3
	3/8	3 3/4	19.6		3/8	7 3/4	42.8
	1/2	4	27.1		1/2	8	58.0
3 1/2	1/8	3 3/4	7.0	8	1/8	8 1/4	15.7
	3/16	3 7/8	10.7		3/16	8 3/8	23.7
	1/4	4	14.5		1/4	8 1/2	31.9
	5/16	4 1/8	18.4		5/16	8 5/8	40.2
	3/8	4 1/4	22.5		3/8	8 3/4	48.6
	1/2	4 1/2	30.9		1/2	9	65.7
4	1/8	4 1/4	8.0	10	1/8	10 1/4	19.6
	3/16	4 3/8	12.1		3/16	10 3/8	29.5
	1/4	4 1/2	16.4		1/4	10 1/2	39.6
	5/16	4 5/8	20.8		5/16	10 5/8	49.8
	3/8	4 3/4	25.4		3/8	10 3/4	60.2
	1/2	5	34.8		1/2	11	81.2
4 1/2	1/8	4 3/4	8.9	12	3/16	12 3/8	35.3
	3/16	4 7/8	13.6		1/4	12 1/2	47.4
	1/4	5	18.4		5/16	12 5/8	59.5
	5/16	5 1/8	23.3		3/8	12 3/4	71.8
	3/8	5 1/4	28.3		1/2	13	96.7
	1/2	5 1/2	36.6				
5	1/8	5 1/4	9.9				
	3/16	5 3/8	15.0				
	1/4	5 1/2	20.3				
	5/16	5 5/8	25.7				
	3/8	5 3/4	31.2				
	1/2	6	42.5				
5 1/2	1/8	5 3/4	10.9				
	3/16	5 7/8	16.5				
	1/4	6	22.2				
	5/16	6 1/8	28.1				
	3/8	6 1/4	34.1				
	1/2	6 1/2	46.4				
6	1/8	6 1/4	11.8				
	3/16	6 3/8	17.9				
	1/4	6 1/2	24.2				
	5/16	6 5/8	30.5				
	3/8	6 3/4	37.0				
	1/2	7	50.3				

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February 3, 1955

3. Defects:

Reasonable diligence shall be used in manufacturing operations to eliminate all defects in the pipe such as laminations, cold joints, pits, pressure joints, obstructions and inclusions.

4. Markings:

All pipe conforming to this Standard shall be recognized by the manufacturer's mark, the wall thickness and inside diameter being conspicuously displayed at least once on each length or coil of pipe.