

LEAD INDUSTRIES ASSOCIATION, INC.

292 MADISON AVENUE

NEW YORK 17, N. Y.

May 8, 1963

SUBJECT: LEAD USAGE IN EUROPE

To Members of the Lead Industries Association, Inc.:

The views expressed in this report are those of the Executive Vice President of the Lead Industries Association, Inc., as a result of a trip to Italy, Germany, Belgium, France and England in the late summer and fall of 1962. They were gained through visits to some 25 companies making lead products in the first four countries named, the lead associations in Italy, Germany, France and England, several lead producers, and the First International Conference on Lead in London.

Companies visited are mainly manufacturers of cable, batteries, pipe and sheet, oxides and other compounds, and anti-knock compounds. I offer here some general observations on the outlook for these product groups in Europe, while detailed reports of most of the visits are attached.

Cable Sheathing. Considerable differences of opinion exist on the outlook for lead cable sheathing. At present the displacement of lead for this purpose has been much less than in the U. S. However, some European cable manufacturers feel that it is only a matter of inertia and tradition that has created this situation and that in due course major substitution will take place and the U.S. trend will be followed. However, others feel that the use of lead cable sheathing will be maintained, partly because of different conditions of cost, distances and loads on the cable.

Batteries. The manufacture of automotive storage batteries is growing by leaps and bounds and a general increase in the use of lead for this purpose of the order of 10 to 15 percent over each of the next five years is to be expected. This is the direct result of the rapidly growing automobile population in Europe and the increase in the proportion of larger cars.

Traction batteries already enjoy a larger share of the materials handling market in Europe than in the U.S., battery powered industrial trucks now having between 40 and 60 percent of the market as compared with about 25 percent in the U.S. Also battery powered delivery trucks are much more widely used in Europe, England alone having over 40,000 of them on the streets. Some European battery manufacturers feel that they may have a problem in maintaining this share of the market. On the other hand they feel that total automation in Europe is less than in the U.S. and that growth of automation will offer growth possibilities for traction batteries.


Look Ahead with Lead

Lead Usage in Europe

-2-

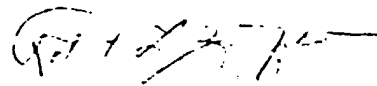
May 8, 1963

Pipe and Sheet. While the use of lead pipe and sheet is more common in Europe than in the U.S., it is following the U.S. trend by losing substantial parts of its share of the market. The extremely high level of building activity due to reconstruction and economic growth, however, have kept these products from showing any noticeable decline. In the chemical equipment field a slight trend to return to the use of lead has been noticed recently as a result of dissatisfaction with substitution of other materials, mainly plastics, in some cases.

Oxides and Other Compounds. While most of the lead paint pigments have followed the declining trend of the U.S., red lead still maintains its position as the standard metal protective paint and has suffered little from competition. At the same time lead compounds for plastic stabilizers are growing rapidly to keep pace with the growing plastics industry. Also the use of lead compounds in ceramics is increasing. On the whole the industries making lead compounds look for annual growth at the rate of 5 to 10 percent in the next few years. Concern over Mexican oxide imports was expressed by some.

Anti-knock Compounds. With one manufacturing plant in England, one in France and four in Italy lead anti-knock compounds are growing rapidly. Most of these compounds were supplied from the U.S. originally but European producers are looking for expansion at a rate of 10 to 15 percent over the next five years. A beginning is being made on the production of TEL to add to TEL production.

Very truly yours,



Executive Vice President

RLZ:mk
Enc.

DETAILED REPORTS OF VISITS
WITH EUROPEAN LEAD MANUFACTURERS

September-October, 1962

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8/29/62-9/15/62

ITALYGeneral Observations

Construction appears to be booming all the way from Naples to the Swiss border. This applies to highways, industrial buildings, and apartments and office buildings. Most buildings seem to be reinforced concrete, but a lot of red lead was seen on industrial buildings and highway construction. The highways in general use no edge striping or yellow paint for anything, but the autostrada generally use yellow edge striping and merger markings but no yellow in the center. One short stretch on the Milano-Torino autostrada uses dashed yellow edge marking. We could perhaps learn something from their experience with yellow edge-marking and they from our experience with yellow center dividers and obstruction warnings. One thing seems clear - the value of yellow as a warning. The practice on the autostrada is much the same as on the Canadian trans-continental highway system in Alberta and British Columbia.

When visiting Pompeii several fountains in the central patio of one of the most elaborate houses were turned on and played beautifully for some 15 minutes. The water is supplied through the original lead pipes plainly visible around the edge of the garden. On leaving, I found lead through-wall flashing, said to be the original. Other lead pipes, not now in use, are also visible at Pompeii.

In Rome the Pantheon still stands under its lead roof, said to be the original from about the second century B.C., with repairs.

At Venice many old lead roofs dating back many centuries are visible. This includes St. Marks' five domes, many turrets and drainage spouts. Also S. Giorgio, Salute and others.

The Italian ceramic industry is using great imagination about products to make from ceramics. Even the famous Ferragamo shoes of Florence offer flowered or otherwise decorated ceramic heels for women's shoes. If we put PZT in these, too, so they'd light up at each step we'd really have something.

Instituto Italiano di Pionbo e della Zinco
Dr. Elemer Varady

9/12/62

As nearly as I could gather most of the Institute's support comes from Montepioni & Montevicchio which, he said, is now about 70% owned by Montecatani. They apparently even contribute people's time and equipment to handle routine work like reproduction. I gathered that much of Varady's time is involved in internal matters and that his time for promotion and technical service is thus minimized. The institute's publication goes to about 5,000 people. I spoke to him about Camerini's interest in lead information. He said they were not in a position to help such people as oxide manufacturers and therefore do not contact them or encourage inquiries. I got the impression that there is a big promotion job yet to be done in Italy.

9/10/62

Aziende Chimiche Vittorio Barbini, Casella Postale 315, Mestre (Venezia)
Dr. Piero Barbini, owner, and Dr. Norberto Pavanello, general mgr.

This firm makes litharge, red lead, lead carbonate and other lead compounds. It made lead chromate until Montecatini started to make it a few years ago. Most of the litharge production is used to make other lead salts. A small amount goes into pharmaceuticals and the rest into stabilizers for plastics. About 1500 tons of lead per year are used for stabilizers in Italy. This use is increasing substantially as Italy has important plastic production.

The biggest market for red lead is in ceramics, glass and paint. The use in ceramics is increasing, although the ceramic industry has tried to get away from lead both for reasons of cost and toxicity. Inferior quality products without lead have brought them back to lead glasses, however. There is little or no lead in porcelain enamels and no porcelain enameling of aluminum in Italy. There is no lead in Venetian glass, most of the lead being used for industrial glass tubing and fine crystal. Red lead paints are holding their own against zinc chromate and other competitors. Calcium plumbate is considered still purely experimental. No lead silicates are being used by the ceramic or glass industries. White lead use is falling badly (off 30% in the last 10 years.)

The lead compound business, however, in which Barbini is engaged, is growing at a rate of 10% per year, largely because of plastic stabilizers and ceramics.

Messrs. Camerini, Via Senofonte 7, Casella Postale 1076, Milano
Dr. Aldo Varetto, chief technical man
Dr. Borgatto

9/11/62

This company makes all kinds of lead oxides, including black oxide, and white lead. They would like to see the battery industry standardize its oxide specifications and asked for information along these lines in the U.S. No standardization has so far been possible in Italy, but they pointed out that Gamichon Carotte & Cie of Paris, with factory at Rieux, sells large tonnages of one standard grade in France. The use of red lead in ceramics is increasing substantially. Red lead in paint has declined but there is now some trend back to it. Lead insecticides have declined to about 1/3 their former use, but a fair amount is still used.

Ferdinando Zanoletti Metalli, Via Albricci 8,
Casella Postale 1273, Milano

9/11/62

Dr. Ing. Carlo Zanoletti, Owner
Dr. Antonio Scannicchio, gen. mgr.
Dr. Serafino Corio, asst. gen. mgr.

This firm manufactures lead sheet, pipe, seals and other metallic lead products as well as engaging in trading of many materials. Their lead manufacturing business so far this year is about 15% ahead of last year. They find that lead is making a comeback in chemical construction

at the expense of plastics which have not always performed as well as expected. They mentioned Montecatini and other big chemical companies in this connection. Also a lot of lead roofing, flashing and plumbing is sold. Not as much lead is used per unit as formerly but the high level of building accounts for this market holding up. This company also makes shot, which is growing, and imports scrap. A new Italian law requires extensive use of lead seals on post office transfers which amounts to about 100 tons per year. They sell lead slabs for small bridges to prevent vibration. They mentioned a bridge at Taranto, which is a swinging bridge, where these slabs are replaced every 2 or 3 years. They are not sure exactly how they are used, but make them in some standard sizes which usually run 30-50 cm. square and 5-10 cm. thick.

Pirelli Co.
Dr. Davini, head of cable research

9/12/62

While Dr. Davini feels generally friendly towards lead cable sheathing, he seems to believe that it will be only a matter of time before Europe follows in the steps of the U.S. with respect to its use. He thinks that only tradition and the greater use of direct burial instead of ducts have maintained lead's usage in Europe. He thinks that telephone cable will probably be the first to go and will use sheaths similar to but not exactly like Alpeth and Stalpeth. (It is interesting to note here that the Bell System still uses lead for direct burial but little else.) Europe is already using a large amount of plastic jacketed, lead-sheathed power cable and when jacketing is used the lead thickness is substantially reduced. For high voltages he sees little difference in advantage between lead-sheathed and pipe type cables, but ventured no comparison on cost or convenience. He expressed no opinion about possibilities of lead in combination with other materials except his comments about plastic jackets. He felt that paper insulation, which requires lead sheaths, will probably lose out, at least to some extent, to synthetic substitutes. He cited the use of more and more plastic insulation in the U.S. (I believe here he was referring to the lower voltages at present.) He would like to see lead stronger, lighter and cheaper. He seems seriously anxious to get results of our powder metallurgy research and to get powders to try on his laboratory press.

CEAT, Torino
Dr. Ing. Bonanate, head technical man
Ing. Bacci, Asst.
Dr. Casiraghi, gen. mgr. purchases

9/14/62

This company is Pirelli's largest competitor in the cable field. These people seem more optimistic about lead than Pirelli, although I had been warned they would be less so. At present they say, in the case of telephone cable, that 80% of long distance and 70% of urban cables are lead. Long distance is buried in the ground and urban cables are in ducts. Coaxial cables are all lead sheathed and will remain so. All paper insulated power cable is lead sheathed. On large cables lead is cheaper than p'vethylene. Butyl insulation is replacing paper to some extent in lower voltages. In their opinion paper insulated lead cable gives a factor of safety of 9 or 10 to 1 and butyl insulation only 2 or 3 to 1.

They expressed an opinion that modern high purity lead is more subject to fatigue failure than lead with some impurities such as they got some years ago. They use pure lead and 1/2 C alloys for power cable and up to about 0.7 or 0.8 Gb for telephone. The Robertson continuous press has proved satisfactory for the alloys and the Pirelli press is coming along. For high voltages they believe that, if lead sheathed cable is carefully installed, it is better than pipe type installations.

These people do not expect any major change in lead for cable sheathing in the foreseeable future. They cited, as an expression of their feelings, that in their new large plant, which I saw under construction just outside Torino on the Milano-Torino autostrada, they are installing equipment for lead just as they have in the past. They said that when the plant was planned a couple of years ago they had about decided to omit much of the lead equipment. However, a subsequent careful review of the situation convinced them that full lead equipment was needed. They mentioned as possible competition the corrugated copper and aluminum sheathes being tried in Germany and Switzerland and a new aluminum extrusion press which is being purchased and will be used jointly with Pirelli. Neither had enough confidence in aluminum to make the investment alone.

Fabbriche Accumulatori Henssenberger, Via Mantana 9, Monza
J. B. Keane

9/12/62

This manufacturer of both industrial and automotive batteries was taken over a few months ago by Exide and Mr. Keane was sent over from that company's international office in N. Y. to take charge. He classed himself essentially as a financial man but seemed to have a good grasp of the commercial aspects of his business. The same evening I met him with two technical men from Exide, who were here temporarily, at my hotel where they were also staying. He estimates an annual average increase in the battery business in Italy over the next few years of 10%. He bases this on several things. One is Italy's growing automobile production. He also believes there will be a trend towards more cars and fewer motor scooters as Italians can afford them. He expects more industrialization of southern Italy, where cars are relatively few, and with it more prosperity and more automobiles. He does not expect much increase in the size of car batteries which average about 12 to 14 lb. each.

In the case of industrial batteries he also looks for a big increase. While admitting that Italy probably has a higher percentage of battery-powered industrial trucks than the U.S., he said that Italy is way behind us in mechanizing materials handling. This, he believes, offers a huge new market as mechanization increases. (Incidentally we rode in a little 3-wheeled personnel carrier at the Pirelli plant that was gasoline powered. Battery power would probably have been much cheaper, particularly with Italy's high gasoline cost and taxes.)

Mr. Keane made only one significant qualification: All these things would happen if Italy could maintain its economy.

This company makes its own battery oxides but has sold the secondary smelter it formerly operated and buys its grid metal.

S.L.O.I.

9/7/62

Dr. Zanetti, manager of Societa Lavorazioni Organiche Inorganiche, Via Calzolerie 1, Bologna, plant in Trento near Austrian border.

S.L.O.I. is the largest producer of TEL in Italy and is also set up to make TML, but so far there has been no demand for the latter. Present consumption of lead by S.L.O.I. is about 7,000 tons per year and for TEL in all Italy is estimated at 11,000 to 14,000 tons per year. Lead consumption for TEL has been increasing at a rate of 40% per year and an average increase of 10% per year is predicted for the near future. Oil refining in Italy is markedly on the increase with the refineries doing a big export business to nearby countries like Switzerland, Greece and Egypt. The largest refinery, near Milan, is jointly owned by Esso and Caltex. This refinery is planning to increase production from 1,000,000 to 5,000,000 tons in the next five years. Italian gasoline is of two grades, all leaded. They are 85 and 100 octane. Most of the compact cars, which are in the great majority, use 85 octane, but the larger and more powerful Italian and American cars use 100 octane. There has been no increase in the lead per gallon of gas, the increased consumption of TEL resulting entirely from Italy's increased gasoline production. Dr. Zanetti felt, however, that in the near future there might be a trend to higher TEL content per gallon or a trend to the use of more high octane gas as more powerful engines are used. No problems have been encountered or are expected as a result of lead's toxicity and the effect of gasoline fumes on public health.

SWITZERLANDGeneral Observations

Construction here seems quite active but not so much as in Italy, probably because there was no war damage and because it is obvious that there has been a lot of new building in recent years. Wherever new steel work was under construction, the bright color of red lead paint was apparent and it appears to have no competition here.

No yellow paint is used for either edge or center or lane markings on highways. In fact the highways outside of cities seem to be badly lacking in safety features. In all cities and towns broad parallel yellow bands mark cross walks where pedestrians have the right of way. Yellow is also used extensively for bus stops, parking spaces and so on. This is another example of lack of uniformity in highway marking but recognition of the value of yellow for the purpose and its acceptance by the public.

The Schweitzerhof, one of Lucerne's best hotels, is still using a pre-World War I battery-powered bus to transport its guests the 1/2 mile or so to and from the station. It's known as Aunt Mathilda.

WEST GERMANY

Bleiberatung AG., Düsseldorf
G. Heusser

9/24/62-9/25/62

Mr. Heusser was most helpful in arranging visits for me and in transporting me from place to place. While driving we had considerable time to talk. He asked many questions about the L.I.A. support and set-up which I answered fully. His support comes 1/3 from the lead producers and 2/3 from pipe and sheet manufacturers. Thus, as I had been warned, his group is weak on lead compounds and miscellaneous products like batteries, cable, etc. I understood from others that he has done a good job in training building mechanics to know how to handle lead. Bleiberatung is only about 9 years old. As in Italy there appears to be a great need to broaden the scope of the association so that its promotion and technical service can cover all lead products.

Metallgesellschaft A.G., Reuterweg 14, Frankfurt

9/21/62

Mr. Otto Weckmann
Mr. Maul, Metal Dept.

This company produces about 40,000 tons of lead a year. Germany is on an import basis, buying also from Peru, Australia and elsewhere. Like many lead producers, their knowledge of the markets for lead products and their competition is somewhat superficial. They do agree that to sell more lead the ultimate user of lead products and not the manufacturer of lead products must be sold.

Beratungsdienst Transport-Rationalisierung
Goetheplatz 7, Frankfurt

9/20/62

Karl Klapdohr
Wolfram Erdlen

This is an association supported by battery manufacturers to develop the use of batteries for motive power. It provides engineering service to help users solve their materials handling problems, in favor of battery power if possible. Also publishes technical literature on battery power. They translated our industrial truck brochure a couple of years ago and call it a "best seller." They have distributed about 8,000 copies of it to date. Biggest competition now in Germany is with diesel power which is cheaper than gasoline. Batteries now get about 50% of the industrial business. Klapdohr mentioned a U. S. trade paper called "Flow" that he considers very good. He would like to see our new battery brochure as soon as possible. There are about 5,000 battery powered street trucks in Germany now. Their use has been declining because taxes are on weight including batteries. They hope to get this changed in the next couple of years. He recommended Electric Vehicles Quarterly Review published at Morley House, London. He also suggested contacting H. W. Heyman, Smith's Delivery Vehicles, Team Valley, Gateshead-on-Tyne and Smith's Electric Vehicles of Canada, Ltd., Toronto, who gave a paper entitled "Electric Road Transport - the Promising Present and the Challenge of the Future" before the Canadian Electrical Association, Quebec, January 26, 1960.

In Germany they are experimenting with an electronically controlled

industrial truck which follows a line with electric eyes and stops when the line stops. There is no operator. He also suggested contact with Electric Vehicle Assn., 2 Savoy Hill, London W.C. 2, Telephone Temple Bar 9434, R. D. Reynolds, deputy secretary.

This group would like to work closely with us particularly on the exchange of factual engineering data on batteries for motive power. Apparently most German battery companies make industrial batteries but only 3 or 4 account for the bulk of the business.

The German P. O. Dept. has several hundred battery trucks on the street and I saw one as I walked with Klapdohr.

Varta A.G., formerly Accumulatoren-Fabrik
Neue Mainzer Strasse 54, Frankfurt

9/20/62

Director Puppe

This is the largest battery manufacturer in Germany with a subsidiary ÖPA-AKKUMULATOREN G.S. m.b.H., Hamburgerstrasse 9, WIEN V. Mr. Puppe is optimistic about the battery business. He expects there will be further technical improvements in auto batteries and sees no serious competition to lead. In industrial batteries he sees a psychological obstacle that operators want speed and noise. (Klapdohr made the same observation.) We must convince people that even though batteries are quiet they have all the power and speed necessary. Safety, quiet and lack of CO fumes must be made advantages. High first cost is another disadvantage at a time when everyone looks to rapid write-off and does not worry about long life. He does not like battery rental systems because he believes people do not take proper care of rented batteries. On street trucks in the U.S. he sees a problem of competing with mass produced gasoline vehicles. He said that in Vienna all the mail trucks are electric.

Germany has 200 battery-powered railway cars, all built in the last 6 years, which are used where it does not pay to electrify the line. Each car has 16-20 tons of battery and can go 500 km. without recharging. Each can pull one trailer car of the same size. An additional 45 of these battery cars are now in production.

Gottfried Fagen AG Köln-Kalk
Rolshoverstrasse 95-101

9/24/62

Karl Acker

This company manufactures storage batteries, battery oxides, smelts scrap batteries and makes sheet lead, pipe, etc. Although they make automobile batteries, they are more interested in industrial batteries because the competition in car batteries is so intense. The big competition for traction batteries in Germany is with diesel power. They have lost some business to diesel power in recent years, but some of the customers who went to diesels are returning to batteries because of the diesel's lower efficiency. Thus industrial batteries are recently showing an increase. Gasoline and propane are not allowed in mines because of CO gas. They see no competition for lead batteries in automobiles because they are the cheapest source of power. Before the War there were a considerable number of battery street trucks, but their slowness resulted

in a decrease after the War. Now, heavier, slower traffic is favoring battery trucks for the future. There is a need to reduce power losses of battery trucks to increase their usage.

Small, non-spill lead batteries for radios and the like are made by Firma Sonnenschein, Bidingen.

For water distribution lead pipe is giving way to plastics underground. In buildings, some lead is used for water distribution but most is copper or galvanized - no plastic. More lead is used in the waste system than for water pipe. This use has shown a small increase because of building activity, but the increase has not been proportionate with the building activity increase. No copper is used for waste.

Sheet lead consumption is greater than pipe. It is quite extensively used for flashings.

However, the chemical industry is this company's big market. Here, the paper industry, once a big customer, has gone largely from lead to stainless steel. Also in making H_2SO_4 , the shift from chamber to contact plants has materially reduced the use of lead. Also the trend from rayon to nylon, etc. has reduced lead usage. Lead is still quite widely used in plating and pickling tanks.

It was mentioned that the Bleiberatung has a soundproof room using 1 mm. of lead, with which they are not too happy. Also foil 0.3 mm. thick for waterproofing cement was mentioned but no one could cite specific jobs on which it was used.

STOLBERGER ZINC AG, AACHEN

9/25/62

Dr. Ing. Hans Fritzsche, Managing Director
Dr. Fischer, Smelter Director
Dr. Schmidt, Director, Lead Manufacturing
Dr. Feltzel, Laboratory Director

The smelter produces about 50,000 tons of Pb a year, about 25% from their own ores, the rest from imported. Also 40-50 tons of Ag. per yr. They have installed a new up-draft sintering plant and contact H_2SO_4 plant in which a fair amount of lead was used, particularly in the duct work and both wet and dry Cottrell precipitators. Since batteries are becoming a more important item of lead consumption, they are now smelting some battery scrap and expect this part of their operation to grow substantially.

The manufacturing plant next to the smelter makes sheet, pipe, traps and bends, solder, solder wire and cored solder, shielding bricks, gaskets and washers and many miscellaneous items. For sheet they have a mill that breaks down the slabs which are then cut and put through a finishing mill. Plumbers and building lead is made in 3' widths on the finishing mill. Most flashing is .8 mm thick and roofing 2 to 3 mm. thick. Soft lead with about .05% Cu is used. Sheet for the chemical industries is made in larger sizes. The finishing mill is not long, the lead dropping through openings in the floor at each end. Large amounts of flashing are sold, lead and zinc being most popular in Germany, the relative cost

deciding which of these will be used, except for industrial exposures where lead is preferred. They have even tried lead coating sheet zinc for such conditions. Lead waste pipe, traps and bends are thinner walled than in the U.S. but a small percentage of Pb is used in them, considerably less than 1%, I believe. To demonstrate lead's ability to prevent transmission of sound, Dr. Schmidt has in his office a sound box similar to ours, but rectangular. Next to it is a box with the same internal dimensions but made of about 4" brick. A bell like ours is moved from one to the other, and with lids on only the same amount of noise emanates from the two. This shows space saving quite graphically.

Felten & Guilleaume Carlsberg AG., Koln-Mullheim

9/24/62

Dr. Erwin Keutner, Director, and five other engineers.

This firm was quite optimistic about the continued use of lead for middle and high voltage cable. In fact they have about decided to buy a new continuous extrusion machine. Even at voltages of 100 KV and up they use a lead sheath in nitrogen-filled steel pipe and had samples on display. When plastic is used it is generally on single conductors. Then parallel cables must be laid. Multiconductor cables are lead sheathed.

They feel that plastic is more expensive than lead in large diameter cable. They agree that lead offers a larger factor of safety and that cost is usually the determining factor in favor of plastic. Most of their sheath is copper-lead with about .05 Cu. While they do not expect much increase in the use of lead for cable sheath, they believe it will hold its own because of the greater amount of cable that will be made. They have made some cable with corrugated Al sheath. Al must be jacketed to protect it against corrosion. Also they believe that losses are less with lead than with Al and Cu, because of Pb's poorer conductivity. The attitude of these people was quite the same as at CEAT.

BELGIUM

Societe Belge Pour La Fabrication Cables et Fils Electriques,

9/27/62

79 Rue de Marche, Brussels

Mr. Drugmand, General Mgr.

This company manufactures both telephone and power cable but is not as large as many others in Europe and confines its sales to Belgium alone. Therefore its views are largely limited to Belgian practice. Mr. Drugmand is an elderly man of the old school and claimed to be a great friend of lead. However, he said he believed lead to be on the way out completely. He said that up to 6 KV it had been entirely replaced by plastic and believed this would continue to higher and higher voltages. He cited as one difficulty obtaining paper for insulation since it must come from Sweden. His company is now making plastics for their own use and has reduced its lead consumption from 250-300 tons per month to 150-200 tons per month. He claimed that plastic is often more expensive to use than lead but it is easier to install and needs no skilled workers like lead does. He showed me specifications of the Belgian equivalent of A.S.T.M. for plastic sheath up to 6 KV and said that while there is nothing mandatory about these specs they have become almost completely used by Belgian utilities. He saw only a disappearing market for lead cable sheath. He did point out that, because of Belgium's

small size, there is much less need for the high voltages used in other countries, and plastics have proved themselves for the lower voltages.

Compagnie Des Metaux D'Overpelt, Louvel et de Corthal
54 Rue des Fabriques, Brussels

9/28/62

Mr. Ausseloos, Asst. Gen. Mgr.

I had previously met this gentleman in N. Y. This company makes metallic lead products such as sheet, pipe, shielding bricks, etc. He feels that the entire market for the conventional uses, such as chemical equipment, plumbing, and flashing, is gradually diminishing. However, the new City Administration Building in Brussels will use several hundred tons of sheet for roofing and waterproofing. This lead is equivalent to about 7 lb. lead. The building is under construction. I was shown the prefabricated X-ray room wall construction, a circular describing which we recently received. Despite the fact that this seems much the same as some of the Bar-Ray, Ray-Proof and other products marketed in the States, he says they now have over 100 installations in Belgium and France and are about to introduce it in the Netherlands. He is anxious to have all data on lead for soundproofing, as they are prepared to adapt this wall and do the laminating in the lead plant as they are for X-ray construction. They are having some tests made for them at the University in Brussels on this construction for sound-proofing.

Societe Generale des Minerais, 31 Rue du Marais, Brussels

9/27/62

Mr. Y. Du Parc

As Mr. Van de Venne was out of the country, I was only able to have a general discussion, mostly statistical, with Mr. du Parc, who is not too familiar with the usage of lead. He did say that lead consumption in Belgium has increased an average of 9% per year since 1958 while production in Belgium was declining. He also said that the Common Market countries import about 70% of their lead requirements either as concentrates or pig.

FRANCE

Syndicat General de la Construction Electrique -
Branche Accumulateurs, 11, Rue Hamelin, Paris 16^e

10/1/62

Mr. Gaud

All statistics on batteries in France are based on nominal, not real, capacity. Therefore, they may be misleading since real capacity has been increasing but nominal remains the same. However, he said that car batteries, which constitute 80% of the total battery business, are increasing by about 7% per year in the amount of lead used. About 1/2 of industrial trucks are battery powered and while he has no statistics he thinks this share is slowly declining. Car battery life is increasing since the war and now averages somewhere around 4 years. Only two general types are made - one with an 18 mo. guarantee, and a cheaper battery with a 12 mo. guarantee. The latter are a small portion of the total. In the cities most people expect the batteries to last as long as they own a car, which averages 3 to 4 yrs. He thinks French people buy both batteries and cars to last longer than in the U.S. The same amount of lead

per battery now gives 20% more capacity than in the late 40's. (Language being a handicap, I think he means that French battery manufacturers have not reduced the lead per battery but have come up with batteries weighing the same that now have 20% more capacity.)

Syndicat Professionnel des Fabricants de Fils et Cables
Electriques, 23, Rue de Lubek, Paris 16^e

10/3/62

Mr. De Laage de Meux, General Secretary
Mr. Jacquin, Asst. Gen. Sec.

Production of cable in France has increased 50% in the last 10 years but the use of lead for cable sheathing only 10 per cent. Actually the use of lead declined from 1960 to 1961. It was about 60,000 tons in 1960 and only 55,000 to 56,000 tons in 1961. Yet the use of neoprene for cable is even greater than in the U. S. The main reason for lead holding up so well in France is the hesitancy of French manufacturers to scrap old equipment. Substitution is following the same pattern as in the U.S. but is some years behind. These people believe that the use of substitutes for lead will accelerate in the future. As yet there has been little substitution in voltages above 3,000-6,000 volts because people are not sure how the substitutes will perform with age and they are sure of lead.

These men seem both favorable to the use of lead and, while in the long run they think substitutes will make big inroads, they think this could be greatly delayed and minimized by proper promotion of lead now. They indicated that they thought that French lead producers were not aggressive enough in promoting lead. They said they were anxious to cooperate with the lead people to help save lead but the lead people would have to take the initiative because they are supposed to be neutral. They mentioned, for example, that they have displays on cable at trade shows where they could distribute literature of the right kind prepared by the lead people. They even mentioned the possibility of translating our ads and literature for distribution if it was the right kind. I believe the right approach to these people could be helpful. If these men can be depended upon to act as they spoke, they could be most useful to the lead industry. They claim that even now the French cable industry has not gone for as much substitution as the cable industries of other European countries. They said jokingly that the cable between France and England relieved peak loads in the two countries and that the reason for the difference in the peak loads was that Frenchmen took 2 or 3 hours for lunch which the English didn't.

Octel Kuhlman, 25 Boul. de L'Amiral Bruix, Paris 16^e

10/4/62

Mr. Berthon, Purchasing Director

This is the only TEL producer in France and it started production in 1938. They make TEL and now TML, which is marketed by Octel S.A. Other European producers are in England and Italy. Two grades of leaded gas are made in France. The lead content of regular has recently been increased. The following figures and forecasts were given me of the Pb content of TEL and, starting with 1963, of TML:

1959 - 5,000 tons Pb
1960 - 6,000
1961 - 7,500
1962 - 8,000
1963 - 10,000-11,000

Gamichon, Carotte & Cie, 95 Rue de Flandre, Paris 19^o

10/4/62

Paul Lederer, Associate Director

This company makes about 20,000 tons per yr. of litharge, red lead, gray oxide, calcium plumbate and lead titanate. The last two are relatively recent. Calcium plumbate is small but growing slowly for galvanized surfaces. It was also used at the water line on the ship France. He showed me a recent article on it that we should have, published in "Zinc, Cadmium, & Alliances," by Le Chambre Syndicate du Zinc et du Cadmium, 39 Rue Saint-Dominique, Paris VII^o, April, May, June, 1962, issue. Red lead is widely used in France and has little competition from zinc chromate. That is true of most of Europe except Norway. The French Navy used zinc chromate around the end of the War but switched back to red lead because it lasted longer and ships were not being sunk. Red lead and litharge consumption is about 18,000 tons a year in France. It declined from 1932 until the War but has recovered to its earlier level since.

Gamichon is the only independent producer of gray oxide, but it is also made for their own use by the two large battery companies, Tudor and Pulten. Gamichon produces about 6,000 tons of gray oxide, half for export. The use of litharge and red lead for batteries has declined from about 5,000 tons in the 1954-59 period to about 2,500 tons now, but gray oxide has more than made up the difference. Other uses for oxides follow:

Glass	3,500 tons
Ceramics	1,000
Colors	2,000
Paints	4,000-5,000
Other	1,000-1,500

Because of the constant lead poisoning threat they are starting to use a rubber shipping container for large customers like St. Gobain. They also make oxides shipped with 0.2% of oil which makes them dustless. They hope that lead titanate will recapture some of the white lead market since it does not darken on exposure to H.S. France uses nothing but yellow paints for highway marking and the practice is growing in other European countries except Germany. The latter use white containing white lead. He will try to get test information of the greater safety of yellow from La Prevention Routiere, 66 Rue de la Rochefoucauld, Paris IX.

Mr. Lederer is very active in add a v.p. of an informal European lead oxide group known as CEDOP - CONSEIL EUROPEEN POUR LE DEVELOPPEMENT DES OXYDES DE PLOMB, of which a Mr. Wigzell of London acts as secretary.

S. A. Vitrege Eclipse, 11 Passage St. Sebastien, Paris

10/5/62

Marcel Charpentier

This company has been in the field of noise and vibration control using lead since shortly after World War I. Each job is separately engineered and it is on this basis and not just the sale of lead or pads that they make their money. The pads are not extruded but are made from sheet lead burned. The usual pad has two outside and one internal layer of lead and is about 1 in. thick. These are used on about 75% of jobs.

Other pads are thicker with two internal layers of lead. Pads are laid in a checker-board arrangement with glass wool between. Usually pads go under the concrete machinery foundations but if this is not possible, they go directly under the machines. In the latter case they are about 55% as efficient as in the former. He gave me a report of the excellent results measured on an installation for Penarroya by outside engineers and showed me letters from a number of large satisfied companies like St. Gobain and others. He said the material "Amicante" is special with them. The business is growing, but since engineering is a major part of their service they are not anxious to put on a hard sell.

Over the same period of years they have used lead for sound-proofing. He mentioned a 40-ton curtain at the Paris opera and laboratory installations. Here, again, each job is engineered and the profit based on that rather than material sales.

This firm also makes and installs lead-covered steel skylights by extrusion and the same in aluminum. Both cost the same but lead outsells aluminum something like 4 to 1. The Louvre and many other famous and industrial buildings use these skylights.

Penarroya

10/2/62

Mr. Iché

French lead consumption has shown the following trend in metric tons:

1938	-	140,000
1947	-	120,000
1957	-	210,000
1959	-	190,000
1962(est.)	-	210,000

Of the principal uses, he said cable makers are not very optimistic about lead's future. Lead oxides are not showing much change, although litharge for plastic stabilizers is increasing slowly, and red lead for paint is holding its own. Sheet lead and pipe, particularly the latter, are decreasing badly although sheet lead in chemical equipment is not too bad. The use of lead in batteries is increasing although more and more battery companies are making their own oxides. TEL in France is increasing substantially. This company's sales to the only producer have been as follows:

1957	-	2,500 tons
1961	-	8,400 "
1962	-	10,000+ "

The government about 2 years ago increased the permissible amount of TEL per gallon and French engines are trending toward a higher average compression ratio. The only French producer of TEL is OCTEL-KUHLMAN, controlled by the Kuhlman chemical interests. It is also now making TML. The plant is at PALMBOEUF near NANTES.

The Plomb Oeuvré is supported about 75% by Penarroya, with other mining and sheet, pipe and oxide manufacturers. They have not been successful in getting the support of battery and cable people. Penarroya, in addition to pig lead, makes sheet, pipe and oxides. He said they had recently closed two mines.

ENGLAND

10/8/62-10/12/62

First International Lead Conference
Connaught Rooms, London

Considering that this was the first conference of its kind on lead, I think it was an outstanding success and appears to warrant repetition, at least on a biennial basis. It was attended by about 250 delegates from 27 countries, but only about a half-dozen from the U.S. I attended a meeting of the European Lead Development Committee prior to the opening of the conference, at which final arrangements were discussed. I also spent considerable time at the offices of the Lead Development Association and with its staff. However, the staff was so involved with preparations for and conduct of the meeting, we had limited time to discuss our respective activities and mutual problems.

At the Conference I presented a paper on "Recent Developments in Storage Batteries in the U.S." which will be printed in full with discussion in the Proceedings. It was well received and evoked some interesting questions and discussions. Also at the Conference I met many lead manufacturers whom I had not met as well as a number with whom I had already visited. The Conference itself was conducted with simultaneous translation into four languages, English, French, German and Italian.

I also had an opportunity to visit the London Metal Exchange and meet some of its officers and members.

LEAD INDUSTRIES ASSOCIATION

420 LEXINGTON AVENUE

NEW YORK 17, N. Y.

August 31, 1951

To Members of the Lead Industries Association:

The Lead Industries Association is represented by one of its staff on the National Technical Task Committee on Industrial Wastes and is delegated in this capacity to represent the interests of the lead mining, smelting, refining and fabricating industries.

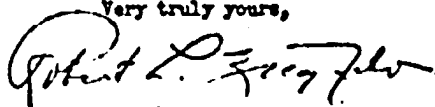
The National Technical Task Committee on Industrial Wastes was formed under the auspices of the Public Health Service of the Federal Security Agency and includes representatives of twenty-two of the nation's leading industries. The preliminary functions of the Task Committee are:

- (1) To assemble a source list of existing processes and practices employed in using, treating and controlling industrial wastes.
- (2) To assemble a tabulation of research projects concerned with utilization, treatment and disposal of wastes - those underway and those contemplated.
- (3) To provide a list which will define problems that confront a given industrial group and for which there is no satisfactory solution, particularly those which are common to more than one industry.

There are many water pollution and industrial waste problems that are common to unrelated industries and it is obvious that by mutual cooperation through an agency such as the Task Committee, all of industry can stand to benefit.

If your company, as a member of the Lead Industries Association, is currently faced with an industrial waste problem or, if having been faced with such a problem you have successfully solved it, you may wish to fill in the enclosed form and return it to the Association so that it may be made available to the Task Committee at its next meeting in October. As a participant you will, of course, be entitled to the benefit of research developments undertaken by other cooperating companies.

Very truly yours,



Secretary



LEAD INDUSTRIES ASSOCIATION

450 LEXINGTON AVENUE

NEW YORK 17, N. Y.

Industry: Lead Mining _____ Company Name: _____
Lead Smelting _____ Address: _____
Lead Refining _____ City: _____ State: _____
Lead Fabricating _____

NATIONAL TECHNICAL TASK COMMITTEE ON INDUSTRIAL WASTES

This sheet refers to: Waste treatments _____
Research projects _____
Problems _____

- 1) Name of treatment, project or problem.
- 2) Any printed information available? List sources.
- 3) Brief description of treatment, project or problem. (Use other side also)
- 4) Any patents involved? Give numbers.
- 5) Remarks. (Use other side also)

Completed by: _____

Sheet No. _____

