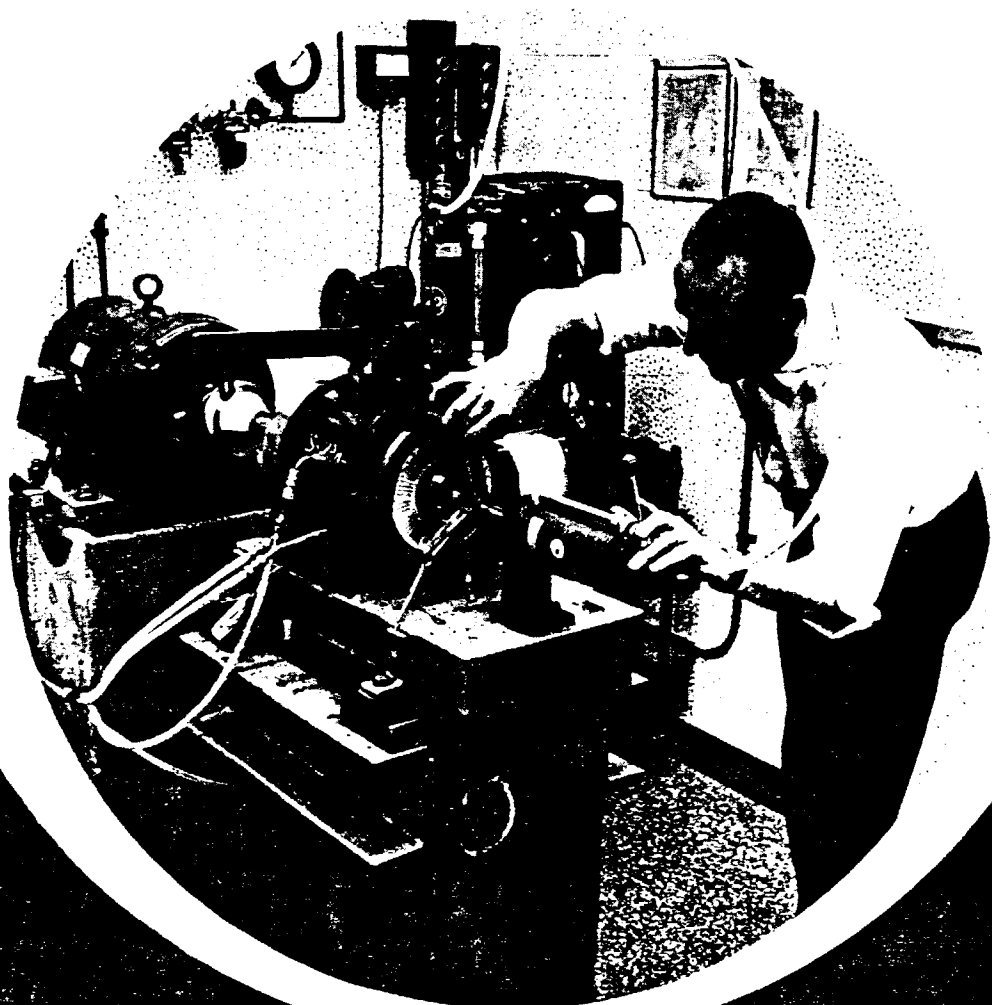


LEAD INDUSTRIES ASSOCIATION

Battery powered mail truck making its rounds in the Equitable Life Assurance Society's headquarters. A fleet of 20 of these trucks speeds mail from a vertical conveyor system to departments on each floor. Safe, silent operation increases delivery efficiency without distracting noises.

Safe, speedy, silent . . .

THE OFFICE MAIL TRUCK

A fleet of 20 delivery trucks powered by lead-acid batteries now handles the vast flow of mail in Equitable Life Assurance Society's 42-story office building in New York City.

The battery trucks move quietly along the aisles among Equitable employees delivering masses of manuscripts and correspondence: one day's volume is often greater than that handled by the post offices in many American cities.

The trucks operate on the floors where the paper traffic load is greatest and move paperwork to and from stations of a large vertical conveyor system to work stations on the floor.

When Equitable engineers selected the battery trucks for horizontal mail distribution they required a mechanical system capable of covering the 400 ft x 200 ft areas, continuously moving among personnel without creating hazards or undue distraction, and capable of being operated by inexperienced personnel.

Design and construction simplicity was the guide followed by engineers of the Automatic Division of Yale and Towne Manufacturing Company in designing the trucks for the Equitable system. The truck, called Model MT, is 58 in. long, 26 in. wide with a load platform 44 in. long, and weighs 920 lb. It is powered by two automotive-type batteries located under the platform with an integral charger so that the truck can be recharged from standard 110 volt wall outlets. A hinged cover similar to a car hood permits inspecting and servicing.

The simplified controls consist of one lever for forward and reverse and a pedal for speed, coasting and brake. The truck is geared so that 3 mph maximum speed is sufficiently discreet for operating in aisles and corridors among personnel.

One of the chief virtues of the truck is the inherently quiet operation of the battery drive. Other design innovations that further reduce distracting noises are chimes instead of the standard horn, and a sound absorbent lining in the drive unit compartment.

For safety's sake the operator is located at the front of the truck to improve his field of vision, particularly when turning corners.

The hub of the platform truck-conveyor system at Equitable is the primary mail room on the 4th floor where all incoming and outgoing mail is processed. Secondary mail rooms, connected to the main room by vertical conveyors receive and distribute mail and other documents to work areas or to other mail rooms for further distribution.

In the mail rooms the paper is sorted according to size, shape and destination, put into metal tray stuffers which are fastened to the truck platform. The truck then proceeds through the 6-ft 10-in. corridors to distribute the material. Stations for mail drop and pickup are located at the aisles of each department so that the operator does not have to enter actual work areas.

The system, in operation for almost a year, is said by Equitable engineers to have more than fulfilled their expectations. Not only have the trucks provided a fast and efficient paper handling system, but some of the work force has been released for other duties, productivity has risen, and morning mail arrives in each department an hour earlier than with the previous system; a truly important factor for a worldwide organization such as Equitable.

Lead Glazes Find A Place in the Sun

CLAY MASONRY SCREENS, or solar screens, are not new. Many centuries have passed since some clever chap first devised the archetype solar screen — a stone grille-work which shaded his hut or den, yet invited every vagrant breeze.

But, something more than just shade and openings for wind passage is required of today's solar screen. To be successful with architects and builders, it must be as distinctive as a signature; it must be colorful; it must have architectural warmth; and above all, it must withstand the elements — rain, snow, hail, frost and summer sun. Just such an exciting new lead glazed solar screen is now available as a creative tool for architects and designers. It is manufactured by Charleston Clay Products Co., Charleston, West Virginia.

Charleston's President, R. H. Saunders, calls the design "a modified 'eggcrate,' which provides for almost limitless bonding-pattern variations." Every one of these unique one-foot-square vitreous clay screens is coated with a sleek lead-bearing glaze which converts the clay body from its natural color to any of 13 bright hues.

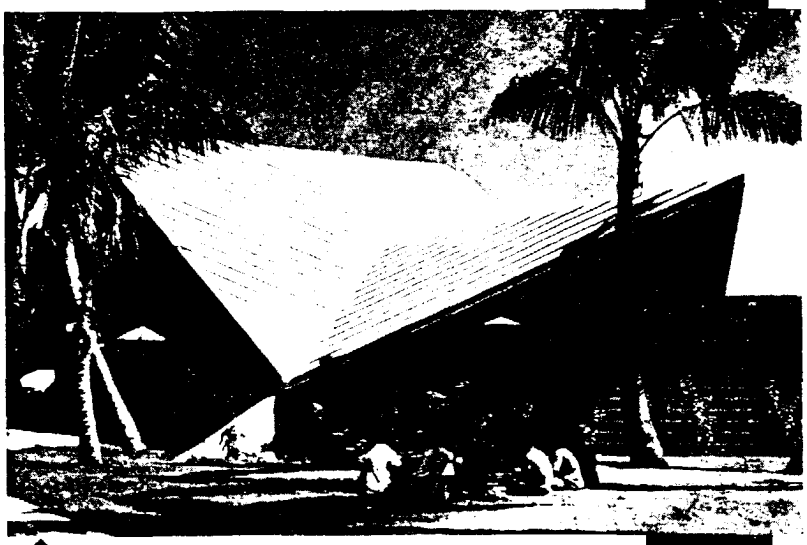
An unusual and attractive installation of this solar screen was the use of a special pure white glazed unit on the married students' apartments at Kent State University, Kent, Ohio. This glaze, plus all the other glazes applied on Mr. Saunders' products, contain lead. Lead is a very important component of vitreous clay ware glazes. It is generally added as a fritted product. Lead aids in melting the other glass materials found in the glaze. It also imparts low surface tension and low viscosity over a wide temperature range, which results in greater brilliance, luster and smoothness in the glaze. Low viscosity makes the glaze more foolproof and helps it to cover blemishes and defects more readily.

The installation is shown above. Over 4200 units of the Charleston Solar Screen were used in construction of the married students' apartments at Kent State. These five L-shaped apartments are a part of a Kent State building program that, since the end of World War II, has cost nearly $32,000,000.

Most recently completed buildings in the project, these apartments are a standout on K.S.U.'s 536 acre campus. Constructed by Steinle-Wolfe, of Fremont, Ohio, these buildings will house 100 families. Cost per family, per month: $90, including all utilities except telephones. By placing the solar screen units along the sides of each wing, the architects have afforded the apartment dwellers a visual angle of cutoff sufficient to give privacy while providing for the movement of cooling breezes in summer and a pleasing aesthetic cover for the stairwell. Architects for the married students' apartments were Fulton, Dela Motte, Larson, Nassau and Associates, of Cleveland.

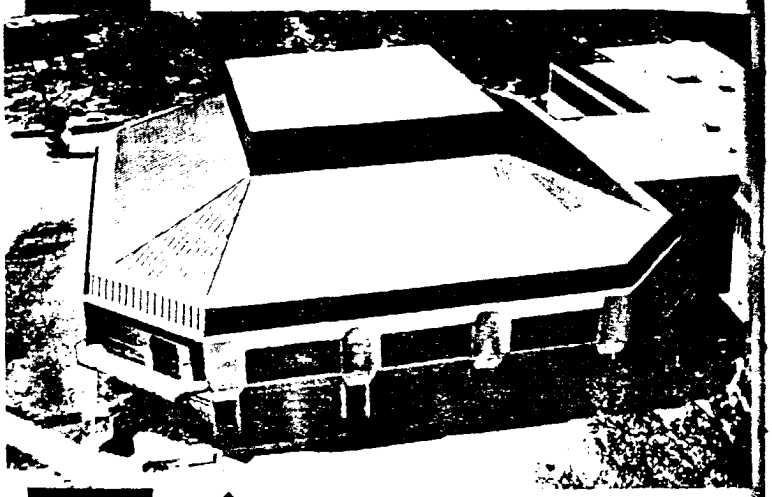
Mr. Saunders points out that his lead glazed solar screen has been used for such diverse applications as bell tower or carillon enclosures, air conditioner and ventilator housings (for the tops of buildings), patio and carport enclosures, and even inside for interior room dividers.

Th[illegible] Terne Roofs



Here is how three architects use traditional terne (steel coated with lead-tin alloy) to get a contemporary effect with striking lateral lines. The effect is achieved with vertical standing seams on the Arena Theater and the Beach Center and with horizontal standing seams on the residence. One of the significant advantages of terne for these buildings in Hawaii and Washington, D. C. is that when painted with a light color the lead-coated steel can reflect as much as 75 percent of the sun's heat.

Unusual ridges and elevations in the roof of the Waikiki Beach Center, with deep V shapes, are accentuated by the lines of the seam construction. Architects are Dennis & Slavsky. *Terne metal in all buildings* by Follansbee Steel Corporation, Follansbee, West Virginia.

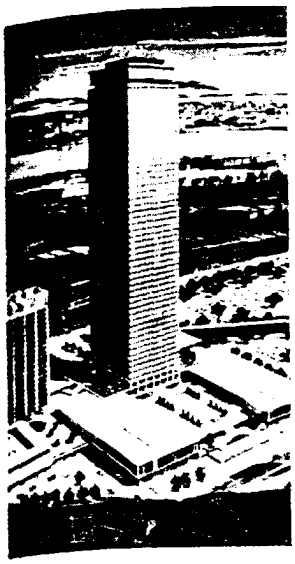


Three section home by architect Takashi Anbe achieves design coordination through use of a terne metal roof connecting the sections. The central section is hexagonal in shape and the side areas are square. The standing seams on the roof also emphasize the horizontal lines of the house.

Eleven thousand square feet of terne roofing grace the new theater-in-the-round in Washington, D. C. Architect Harry Weese selected terne for the Arena Stage building because its formability facilitates the creation of strong shadow lines.

Look Ahead with Lead

LIA26295



Prudential Stops Vibration ... at the tracks

Architects: Charles Luckman Associates in association with: Hoyle, Doran & Berry
General Contractors: Perini-Walsh
Engineers: Metcalf & Eddy, Inc.
Structural Engineers: Edwards & Hjorth
Mechanical Engineers: Syska & Hennessy, Inc.
Acoustical Engineers: Bolt, Beranek & Newman

When the Puritans first settled in what was to become the city of Boston they chose a peninsula in Boston harbor connected to the mainland of Massachusetts by a narrow neck of swampland periodically inundated by the tide. In the latter part of the last century this neck of land was filled in, creating what is known as a part of the Back Bay section of Boston. For many years it was occupied by railroad yards and related dependencies — a blighted area in the backwash of a big city.

Recently the thirty-three odd acres comprising this section have come alive with tremendous activity. Although the main line tracks of the New York Central Railroad remain, the muddy yards, stagnant areas and dank buildings have disappeared. The entire section is now being developed by the Prudential Insurance Company of America, supervised by the Boston Redevelopment Authority under the Massachusetts urban redevelopment law.

The site will eventually be occupied by a complex of buildings and plazas creating almost a city within a city. The tallest office building in the world outside New York City will be one of the seven buildings to be built including a bank, four commercial buildings, a hotel and an auditorium to be built by the City of Boston.

The remaining 75% of the property will be devoted to an elevated plaza containing walkways, landscaped terraces, pools and planted areas.

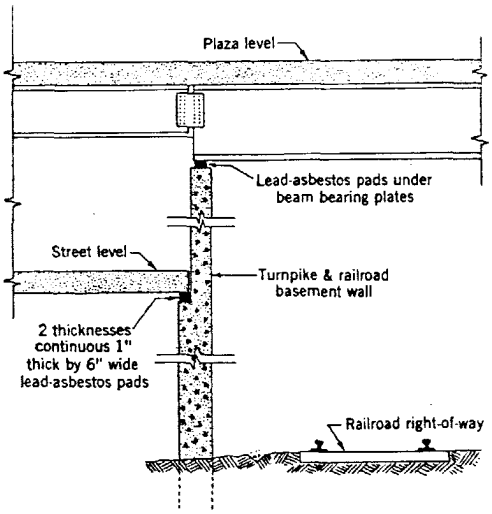
The elevated plaza will be at a height sufficient to provide clearance for easements below — notably the railroad right-of-way. Once clearances had been established, the architects: Charles Luckman Associates, in consultation with the firm of Bolt, Beranek and Newman of Boston, were faced with a vibration problem of some magnitude. Not only do trains pass diagonally through the entire property on the mainline tracks of the New York Central but trucks and motor cars will eventually add their share of resonant traffic disturbance over an adjoining extension of a Massachusetts Turnpike Authority roadway.

The solution, unique in the annals of vibration control, was the installation of "ribbons" of lead-asbestos vibration pads — hundreds of feet of them. For some five hundred feet the railroad is flanked by retaining walls into which, on either side of the tracks, concrete floor slabs will be framed and on top of which roof beams spanning the tracks will rest. To accommodate the floor slabs, two thicknesses of one inch thick lead-asbestos pads were laid continuously on a shelf in the walls.

Floor slabs were then poured to rest on top of them. Each pad, one inch thick, was six inches wide to provide bearing surface, and approximately five hundred feet long.

In addition more than one hundred fifty smaller pads were used, in thicknesses totaling two inches, under bearing plates for roof beams and girders spanning the tracks. The result of course is that from no point on either retaining wall can vibration pass into the buildings, floors or roofs on either side. Vibration has once again been "stopped dead at the tracks."

Close up of the floor slab resting on two layers of lead-asbestos pads. The hand-held sample has been cut away to show its construction.



DETAIL OF STRUCTURE AT RAILROAD RIGHT-OF-WAY
Scale ⊢—⊣ = 1"-0"

LIA26296

QUIET!...Lead at Work

Thin sheet lead converts a work cubicle into a "quiet room" for critical noise measurements at Franklin Institute Labs

Like many another research organization The Franklin Institute in Philadelphia bustles with a variety of projects these days. It is typical that when one project is completed, a new one in an unrelated field claims the lab space it occupied. Usually this is no problem. Water and gas lines, compressed air, and electric power can be piped and wired to the lab space as required. But when a recent project required a relatively quiet environment for noise tests of bearings, there was no such simple way out.

More precisely, this was the problem faced by Senior Staff Engineer Harry Rippel of the Franklin Institute Laboratories: He had been assigned responsibility for a project to measure the noise created by "noiseless" bearings under a variety of operating speeds and loads. The space available for the project was a workroom measuring 13'6" x 9'6" and having a 10' ceiling. The room was part of a larger bay, 25' high and housing a general work area. Among the noise sources were normal traffic and conversation of staff members, occasional light sheet metal work, air conditioning, machinery under test — running continuously — and occasional operation of a very large air compressor.

His choice was either to build new acoustical facilities from scratch — an exceedingly expensive solution, especially in center-city Philadelphia where real estate is at a premium — or somehow to upgrade the existing workroom. On the face of it, neither possibility was attractive.

Designed only for minimum working privacy and to keep the projects separate from one another, the partitions between workrooms were ½" plasterboard nailed to 2 x 4" studs. A ceiling of the same material had been nailed to 2 x 8" ceiling joists. Lighting and electrical fixtures, piping, and air conditioning had required piercing the walls. And while the finished workrooms were neat and liveable, there was a very limited degree of acoustical isolation between them. The task of bringing this sort of a room up to critical acoustic performance by conventional methods appeared to be rather difficult.

Lead Offers Possibility

Being familiar with the field of acoustics, the laboratory staff knew of recent developments in using thin sheet lead as an acoustical barrier. Lead's combination of density, or mass, with very low stiffness makes it a theoretically ideal material for blocking sound. In fact, theory shows that sheet lead should have a higher transmission loss than any other sheet material of the same weight or thickness. But lead had not been widely used in this way and there were no data available on how well the theory might be translated into hard fact.

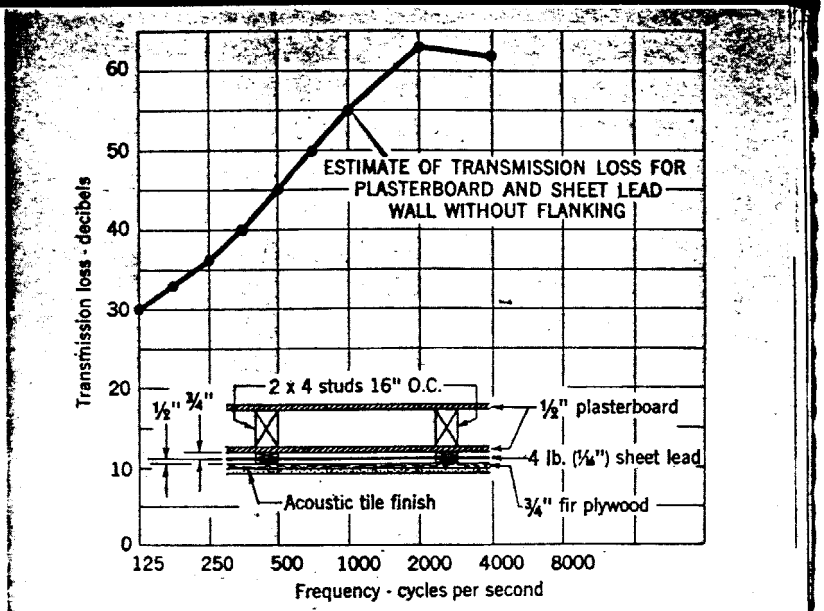
Calling on the lead industry for suggestions and advice, Mr. Rippel arrived at a design using 1/16" lead sheet spaced off from the plasterboard wall by ¾" furring strips positioned over the existing studs. Because instrumentation and piping had to be borne on the inside wall surfaces, additional ½" furring strips were position over the first set and carried ¾" p wood as a structural face. The in rior finish of all walls, and ceiling, w acoustic tile to make the room "dead" as possible.

A separate detail, worked out f the ceiling, called for ½" plywo laid over the bare joists (there was floor above) and covered with ta paper. On top of the tarpaper, l technicians, who carried out the co struction, dumped two inches of d sand. Sand was also dumped in troughs over the partitions and into series of pockets formed by nailin plywood on 1½" furring on the wa facing the common work area.

Since even small openings can ad mit great amounts of noise, attention to minor details in the constructio was meticulous. For one thing, all th new construction was footed on foa rubber strip where walls joined the floor. This insured that no gaping cracks would exist. The studs were on conventional 16" centers and for con venience the lead was purchased in rolls 18" wide. The seams were made by nailing the first strip of lead to studs, then buttering the surface with a lead-loaded soft plastic trowelling material to insure sealing and uniform high mass. Finally, the next lead strip was lapped over the stud face, bedded in the trowelling compound, and nailed down.

The same plastic material, Actrol, was used to seal all wall openings for electrical service and piping. Oil, delivered for pressure lubrication of the test device bearings and the bearings under test, was brought in through

The "Quiet room" at the Franklin Institute Laboratories. Thin lead sheet in the walls added 13 decibels of quiet to permit critical noise tests of bearings.



This is the estimated transmission loss achieved by the leaded wall. The minor differences between it and noise reduction curve shown in figure 2 are that this curve is corrected for the sound that leaked around the wall (chiefly through the air conditioning duct) but does not include the effect of the acoustic tile finish of the room.

flexible tubing from a shock mounted pump.

With this amount of improvement planned for the walls, it became evident that the conventional flush door would represent a serious noise leak. To block this noise path, The Institute procured an X-Ray door with a core of 12 lb/sq ft lead. There was good precedent for this: broadcasting studio doors at Radio City have a similar construction. Soft plastic gaskets were used on all sides of the door so that when it was closed no free path existed between the inside and outside.

After the construction had been completed. it was evident that an impressive improvement had been attained. Just about everyone who visited the "quiet room" was struck with the peculiar dead quiet. Harry Rippel put his finger on the sensation when he said, "When you enter that room, you can *feel* the silence." Despite this. it was carefully inspected by staff members and others who literally prowled the room with their ears cocked for any leaks or source of sound. Three such leaky points were isolated — improper sealing of the door gaskets. broken plasterboard and bent lead around an air conditioning duct, and the sheet metal duct itself.

Adjustment and resealing remedied the first two. The duct was more critical. Because (as test results later showed) the room exceeded minimum demands for acoustical isolation, it was decided to apply only a partial remedy to the duct leak. It was therefore covered completely with a second sheet metal skin spaced about an inch away from the first with the space between filled with glass wool batting. If even more critical demands are made on the room in the future, this will either be replaced by a more massive sound barrier or the duct rerouted outside the room.

Quiet Reigns

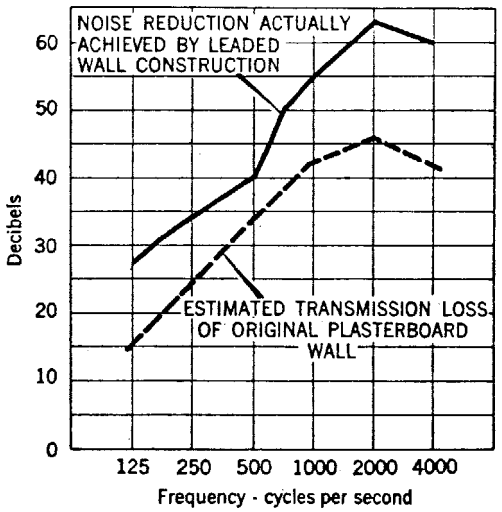
From inception to completion of the quiet room was a matter of weeks. In fact, routine testing of bearings was taking place six weeks after the idea of lead soundproofing had first been advanced. When project activity permitted, the acoustical consulting firm of Bolt Beranek and Newman were called in to test the facility. By checking the noise transmitted into the room through the plasterboard and lead wall, and then again after erecting an additional wall of known transmission loss, they were able to find the transmission loss of the leaded wall.

The test results show that the actual noise reduction through the side walls of the room (the walls treated with lead, but not with sand) was 45 decibels. From previous tests they estimated that the original type of wall might provide 32 decibels of transmission loss, if well constructed. The actual performance of the original wall construction was never tested, of course, but the 32 db figure probably represents more than the original walls were capable of achieving. Even based on the conservative value of 32 db, however, the improvement to 45 db is roughly equivalent to cutting noise level in the test room down to about one third of its former level. In terms of sound energy, it means that only about one thirtieth as much sound energy leaks in as before.

More to the point, the facility has allowed the bearing test project to be carried out conveniently and on schedule. In discussing possible further improvement, Mr. Rippel said he doubted that any further work was justified. "Our primary mission has been accomplished," he observed. "We have a relatively quiet room at a reasonable price."

Actrol leaded plastics are manufactured by Chemical Coatings and Engineering Company, 221 Brooke Street, Media, Pa.

The lead-cored X-ray door used in the quiet room was supplied by Bar-Ray Products, 209 25th Street, Brooklyn 32, N. Y.



Acoustical performance of the original wall and the wall after sheet lead had been added clearly shows the improvement. (Original wall performance shown is estimated and probably quite conservative.) The curve

they go together

paper & pencil

cup & saucer

dollars & cents

LEAD &

boots & saddles

pork & beans

Materials specialists have become familiar with dozens of special purpose plastic and elastomeric materials which they specify for particularly demanding work or, perhaps, on the basis of least cost for an acceptable performance. Today's materials storehouse contains polyvinyl chlorides, urethanes, epoxies, polysulfides, polyethylenes, polyethylene waxes, neoprenes, and Hypalons*. Lead and lead chemicals play vital roles in making all these materials serviceable.

A knowledge of these roles is often the key to changing a plastic commonplace into a star performer — even in near impossible performance situations.

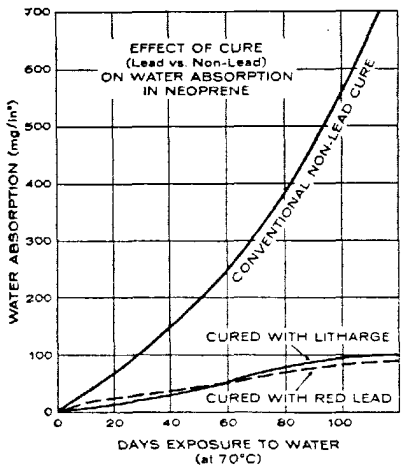
Consider the list above. Leave the lead stabilizers out of PVC and what happens? The vinyl deteriorates rapidly and literally goes to pieces. Lead chemicals like tribasic lead sulfate and dibasic lead phthalate added to the extent of 3 to 10 per cent, based on resin weight, serve as the absorber of hydrochloric acid in incipient breakdown of the PVC and give it stable properties and a long useful life. They also block out the ultraviolet light which triggers breakdown reactions.

The most widely used family of stabilizers, these lead chemicals are a must when high electrical performance is demanded of the vinyl. Newer lead chemicals like dibasic lead phosphite give an added bonus in also acting as anti-oxidants.

In the case of urethane casting materials, polysulfide rubber, neoprene and Hypalon*, lead oxides or organic salts are preferred curing agents. Lead dioxide is almost exclusively used in curing Thiokol polysulfide rubbers. It is the only common chemical which provides the type and degree of cross-linking that characterizes the tough, stable polysulfide belting and non-hardening calking materials.

Urethane casting resins use lead naphthenate as a curing agent.

Hypalon* is frequently cured with tribasic lead maleate or litharge to arrive at the unchanging mechanical properties called for.



Accelerated tests in hot water show how much the water absorption of neoprene can be decreased by selection of a litharge or red lead cure.

Neoprene, too, is often cured with these organic lead salts but for even better moisture resistance it can be cured with litharge (PbO) or red lead (Pb_3O_4). The improvement in water absorption and swelling is remarkable — cured with the standard non-lead chemicals neoprene swells 20 per cent on exposure to water: cured with litharge, the swelling, so far as it can be measured, does not exceed 0.1 per cent. A red lead cure produces a material capable of standing up to intermittent sea water immersion and grueling sunlight for years without loss of its toughness or soft sealing properties.

Unique Mixtures

Equally interesting are a whole family of materials which combine the physical properties of lead and plastics. With the exception of the polysulfides all the above named plastic families have been tailored to specific applications by mechanically incorporating lead powder or powdered lead ore (galena — PbS).

Combination radiation shields, for example, were developed by the AEC by mixing powdered lead with paraffin polyethylene waxes. Lead particles, distributed homogenously throughout the wax matrix, block gamma and X-ray propagation. The light atoms of the organic material absorb neutrons. And from a practical standpoint, the advantages of a shield material which can be cast like metal at a trifling 260° F are obvious. Stripping down such a shield calls only for a live steam line and a container big enough to catch the molten admixture.

X-ray aprons, gloves, and radiation suits are most commonly made of lead loaded vinyl sheet. It, too, blocks radiation of all types. Its flexibility and durability (due in large part to lead stabilizers) makes it the most convenient material for this sort of use. Lead loaded silicones have been developed for special shielding jobs in space work. Lead loaded neoprene sheet is quite common, too.

The same sort of soft leaded plastics

*Reg. Trade Mark — E. I. duPont de Nemours & Company (Inc.)

nuts & bolts

ham & eggs

PLASTICS

moon & stars

love & marriage

knife & fork

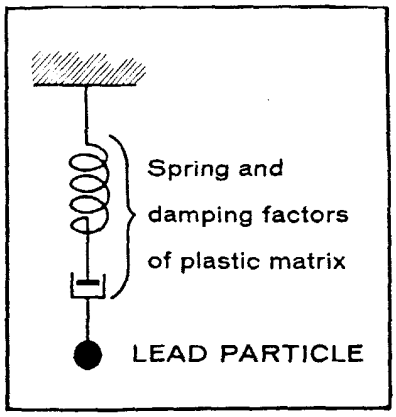
are finding increasing use in noise control since their density and flexibility make them near perfect barriers.

In the same field there is a growing need for sound damping materials typified by galena-loaded urethane materials which soak up vibration at its source. These mastic materials are applied directly to the surface which would otherwise radiate noise. The high density particles of lead sulfide within their soft plastic matrix capture the sound energy and dissipate it through internal friction. Sound energy makes the lead "throw its weight around."

Where weight counts

Powdered lead is often used for a filler in hard plastics like the epoxies. Often these materials make use of lead's superb resistance to acid corrosion.

At other times the weight itself is desired. As weight, a 94 per cent lead, 6 per cent epoxy casting compound is effectively lead — it is fluid and can be cast and cured to a hard, dense, adherent mass at room temperature. Polyethylene, too, has been loaded with powdered lead and cast into flywheels and weights. This is a perfect technique for limited production — it achieves excellent reproducibility for a minimum investment — and for really finicky weight matching, the cast parts are simply "machined" with a razor blade.



Schematic representation of the sound energy trap presented by one lead particle in a leaded sound proofing material — most of the leaded plastics have more than 10,000,000 such traps per cubic inch.

In the massive weight and ballast category, one manufacturer has recently announced a galena-urethane concrete. This material is inexpensive, can be readily mixed on the spot — using a bucket for hundred pound jobs, a cement mixer if the ballasting runs into tons — and cast just like concrete. The result is a compact aggregate of higher than 420 lb./cu. ft. density with good weathering and abrasion resistance, and enough "give" to stand up to a fair amount of mechanical shock.

Probably the smallest use of lead in plastics is accounted for by the epoxy dies which are hand made. Here powdered lead of extremely small particle size is mixed with the resin and cast into a block. The die is then sculpted, ground and polished by hand. Only lead powder gives it the workability demanded by expert diemakers. First, the lead particles act as chip breakers within the plastic and prevent gouging by abrasives. Second, in the final polishing, the lead smears out to form a perfect mirror-like surface essential for good reproduction from the die.

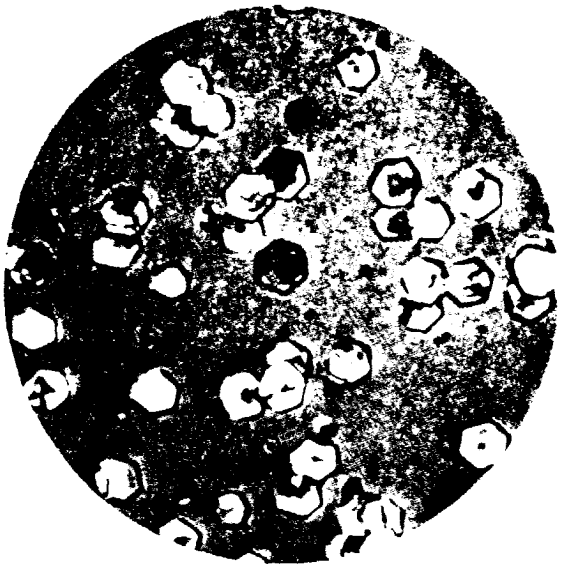
Another interesting material, somewhat neglected in the high powered technical advances today, is litharge-glycerine cement. Itself a simple polymeric plastic, it is used where high strength and high temperature joints are required, providing good life in a 450°F plus environment. The surprising thing about this plastic is that it has been in vogue with plumbers since, perhaps, the Civil War.

Some idea of its toughness can be gained by noting that when it is used as pipe dope on cast fittings, the fittings have to be cracked off the line with a hammer and cold chisel — it is easier to break the metal than to break the adhesive bond formed by the cement.

KEY PROPERTIES OF LEADED VINYL SHEET*

(*LeadX manufactured by Bar Ray Products Co., 209 25th Street, Brooklyn 32, N. Y.)

Specific Gravity	**4.62**
Tensile strength	**560 psi**
Elongation	**350%**
Air permeability	**0**
Thermal Conductivity	**3.33 Btu/hr/sq ft/°F/in**
Dielectric constant (@ 1kc)	**22**



Brilliant little hexagonal crystals of basic lead carbonate. With an index of refraction of 2.09, these crystals are most extensively used for pearlizing. Size of the hexagons is about 5 microns.

PEARLESCENT PIGMENTS

Where are they going?

Brushes, bottles and purses are but a small part of the array of items using pearl pigments to enhance their beauty. (Courtesy Mearl Corp.)

One of the most important and fastest growing markets for synthetic pearlescent pigments is in vinyl plastic sheet for lamination to metal appliances. "Refrigerators and TV sets in particular," says a representative of one major pearl essence manufacturer, "are being pearlized in this manner."

While previous articles in LEAD (Vol. 23, No. 1; Vol. 24, No. 2) have explained how tiny crystals of lead salts, i.e., carbonates, phosphates and arsenates, can be made to imitate nacre or mother-of-pearl, new applications for these pigments call for another look at where they are going.

Rapid growth of plastics manufacture since the end of World War II has proven a boon to pearl essence as well. Contributing to this growth is the fact that those wishing to use pearlescent pigments no longer have to depend on fish (herring in particular) as their sole source of supply. In recent years the manufacture of synthetic, inorganic basic lead carbonate crystals has progressed to the point that it is possible to achieve a chatoyant, pearly effect equal to — and in some cases surpassing — that of natural pearl essence.

Lead pearlescent crystals or pigment can be used in a great variety of dispersions ranging from alkyd resins to xylenes. Suppliers of pearl pigment generally offer paste concentrates of plasticizers, oils or solvents — the customer then prepares his own coating blend.

AIRCONDITIONER HOUSINGS
ARTIFICIAL FLOWERS
AUTOMOBILES
BATHROOM HARDWARE
BEADS
BOTTLES (PLASTIC)
BRUSHES
BUCKLES
BUTTONS
CASKETS & HARDWARE
CHRISTMAS ORNAMENTS
COMBS
DIALS
FISHING LURES
FLOOR TILES
HANDBAGS
INSTRUMENT PANELS
JEWELRY
KITCHEN CABINETS
LAMP BASES
LEATHER
LIGHT FIXTURES
MOVIE SCREENS
OFFICE SUPPLIES
OFFICE EQUIPMENT
PAPER
PICTURE FRAMES
PRINTING INKS
RAINCOATS
RELIGIOUS GOODS
SHOES
SHOWER CURTAINS
STATUARY
SWITCHES
SWITCH PLATES
TABLET COATINGS
TOILET SEATS
UPHOLSTERY
VASES
WALL TILES
WALL PAPER

Odds 'N' Ends . . . about Lead

This page is planned as a regular feature of LEAD for future issues. It will bring you some useful methods and information . . . and some information that is probably not. Interest is the key value in selecting the news bits and tidbits to appear here. If you have a tip or kink dealing with lead which you feel should appear, send it along to The Editor, LEAD, at Lead Industries Association, Inc., 292 Madison Ave., New York 17, N. Y. Thanks.

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Accurate mileage from a map — do it with solder! A foot or so of wire solder will cover most any route you have in mind. It's soft enough to bend so that it conforms with the highway on the map and, when you have formed it to fit exactly from A to B, it can be pulled out straight and compared with the mileage scale. (If you dabble infrequently in the domains of higher math, it's probably faster to locate some solder than to brush up on line integrals, too.)

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The use of leaded glass lights in entrance doors is said to be increasing in popularity. Typical is this attractive residence installation by Sun-Dor-Co. of

Wichita, Kansas, which costs about $35.00 more than a conventional door. The leaded window provides a focal interest point to the entrance and admits daylight to an often poorly lit area. Possible variations include: shape of opening, shape of pattern, use of colored or textured glass or mixtures with plain glass.

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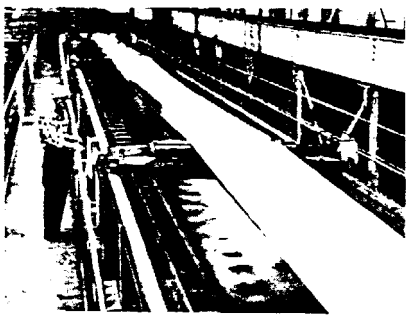
Up to 150 feet of terne per minute is the production speed of a new line at Armco Steel Corporation's plant at Middletown, Ohio. The line will process coils and strips ranging in width from 18 inches to 48 inches and in gauges from 28 to 16. Terne coatings can be applied in commercial weight coating or weights averaging 0.35, 0.45 and 0.55 ounces per square foot. New markets that the line will help supply are power lawn mower fuel tanks, radio chassis and capacitor cans, and standby automotive markets for fuel tanks, air cleaner parts, and radiator supports. The line is said to provide a superior finish, uniform application and good adherence of the lead-tin alloy coating.



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What goes down must stay down . . . sometimes. Problem was that perforated plastic aeration hoses for sewage ponds had almost all of the needed characteristics: they were inexpensive, flexible, easily handled, and durable enough for the service. But when the air was turned on, they floated to the surface. So a change was made. Now the pipe consists of an upper tube carrying compressed air with a lead strand beneath it, joined by a secondary extrusion. The lead not only sinks the pipe but also guarantees that the aeration bubble valves lie at the top of the compressed air chamber. The Air-Aqua Oxygenation Systems are manufactured by Hinde Engineering Co., Highland Park, Ill.

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Decorative wall panels, windows and lamp shades are just a few of the attractive decorations the home craftsman can execute with new leaded stained glass window kits. The kits by Stain Glass Products, Box 756, Cleveland 22, Ohio provide the amateur hobbyist with strips of lead 1/8 inch wide which can be quickly and easily glued to the glass to conform to a design in the same way that real lead comes separate colored areas in church windows. Areas within the lead strips are colored to simulate colored glass.

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