

Sent to Purchasing Agents & Engineers as well as members

LEAD INDUSTRIES ASSOCIATION

292 MADISON AVENUE

NEW YORK 17, N. Y.

October 17, 1961

SUBJECT: SOUNDPROOF FLEXIBLE
PARTITIONS

To Members of the Lead Industries Association:

We are attaching two brochures recently issued which describe different types of flexible partitions. One is an accordion type door and the other a window shade type roll-up partition. Both have one thing in common. They depend for their soundproof characteristics on heavily lead-loaded flexible vinyl plastic sheet.

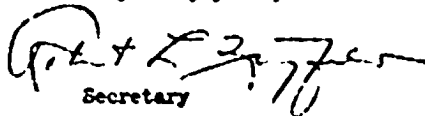
We are sending these to you for two purposes. First, we believe that they are tangible evidence of the increasing commercial use of lead to prevent transmission of sound. The Curtition door has had at least three commercial installations of which we know; namely, in the ABC Television Studios in Los Angeles, Whittier College near Los Angeles and the Palm School in the same vicinity. The LeadX rolling partition is on firm order for Hunter College in New York and for a building in Chicago.

From all the information we can gather it appears that something in the neighborhood of 1,000 tons of lead will be used this year for sound and vibration proofing in one form or another. In addition to the folding doors, the leaded vinyls are being used in gas pressure reducing stations, jet aircraft, helicopters, typewriters and other applications.

Second, we would urge you as a part of the lead industry to investigate thoroughly the merits of the products described in the attached brochures in the event that you have a problem of providing soundproof flexible partitions in your own facilities.

Also, if you have other sound and vibration proofing problems, please get in touch with the Lead Industries Association, which may be able to assist you in solving these problems through the use of our industry's own products. Where flexibility is not involved sheet lead or other lead products may be your solution.

Very truly yours,

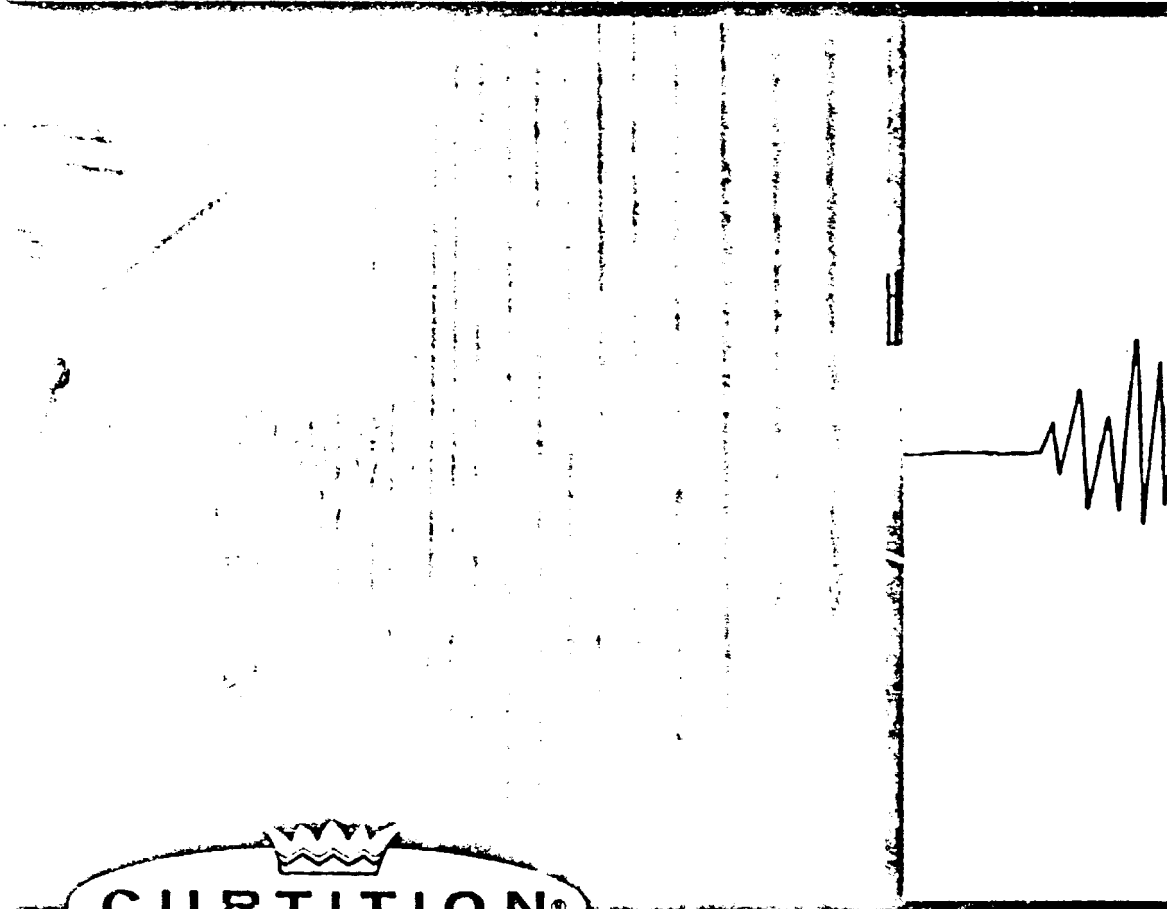


Secretary

RLZ:mk
Enc.


BLINDS AND DOORS

A RE /OLUTIONARY NEW CONCEPT IN SOUND CONTROL
AND STRUCTURAL DESIGN FOR ACCORDION FOLDING DOORS



CURTITION®

THE KING OF ACCORDION FOLDING DOORS

INTRODUCING THE KING OF SOUND CONTROL

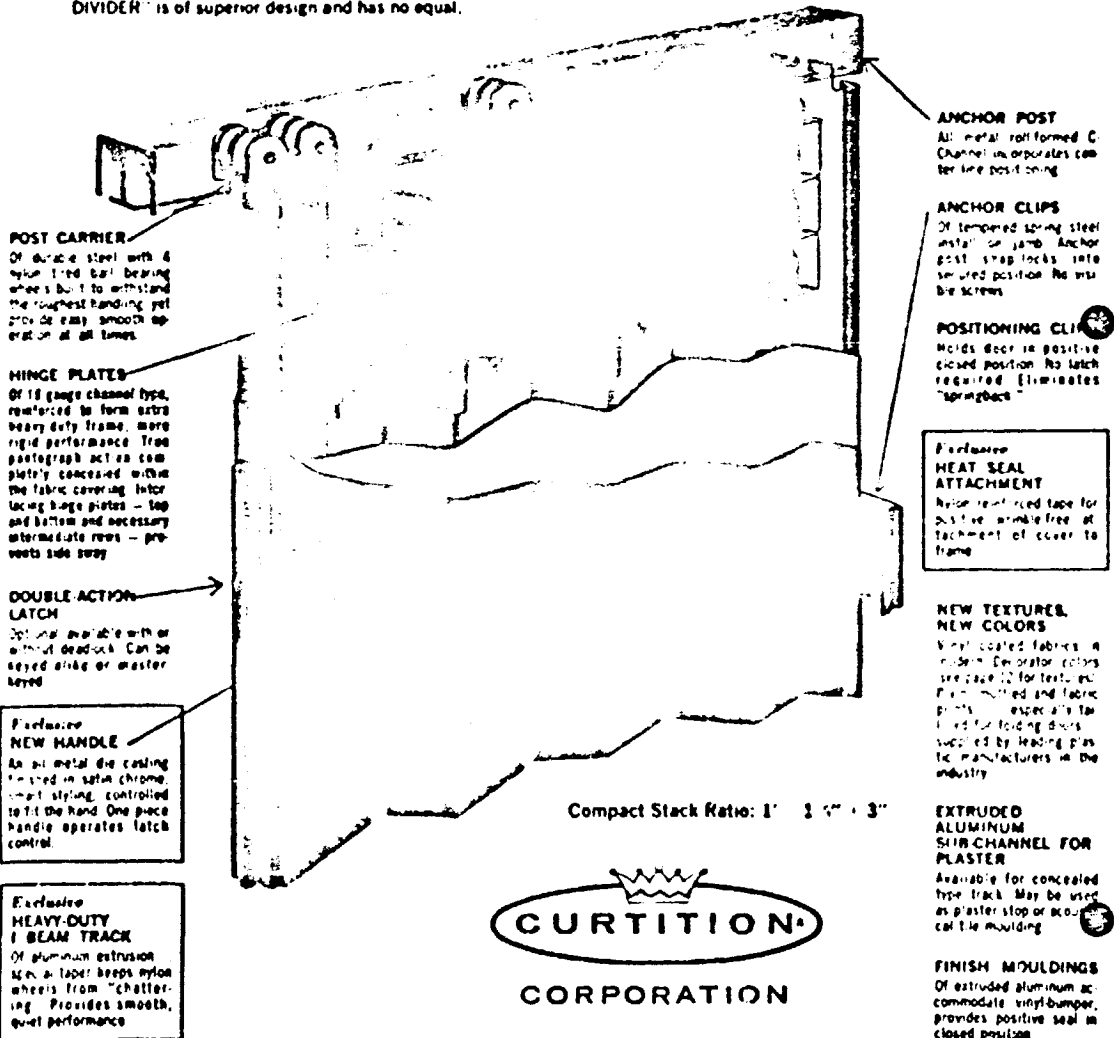
SOUND DIVIDER

ACCORDION FOLDING DOORS

CURTITION'S NEW VL-23 AND VL-2

The problem of sound transmission has long plagued the building industry. Now, for the first time, Curtition offers two new accordion folding type doors that retard sound nearly twice as effectively as the average wooden door.

Incorporated into the new "SOUND DIVIDER" is an exclusive type of material consisting of a supported lead filled vinyl liner. The sound deadening qualities of lead has no equal. A similar type lead filled material has long been used in passenger jet plane construction to retard unwanted sound. Coupled with the strongest, all-channel construction in the industry, "SOUND DIVIDER" is of superior design and has no equal.



POST CARRIER

Of durable steel with 4 nylon lined ball bearing wheels built to withstand the roughest handling yet provide easy smooth operation at all times.

HINGE PLATES

Of 16 gauge channel type, reinforced to form extra heavy duty frame. True pantograph action completely concealed within the fabric covering. Interlocking hinge plates - top and bottom and necessary intermediate rows - prevents side sway.

DOUBLE ACTION LATCH

Optional available with or without deadlock. Can be keyed alike or master keyed.

Exclusive NEW HANDLE

An all metal die casting finished in satin chrome. Smart styling, controlled to fit the hand. One piece handle operates latch control.

Exclusive HEAVY-DUTY I BEAM TRACK

Of aluminum extrusion. Nylon-a-lap: keeps nylon wheels from "chattering". Provides smooth, quiet performance.

ANCHOR POST

All metal roll formed C-Channel incorporates center line positioning.

ANCHOR CLIPS

Of tempered spring steel install on jamb. Anchor post strap locks into secured position. No visible screws.

POSITIONING CLIP

Holds door in positive closed position. No latch required. Eliminates "springback".

Exclusive HEAT SEAL ATTACHMENT

Nylon reinforced tape for positive wrinkle free attachment of cover to frame.

NEW TEXTURES NEW COLORS

Vinyl coated fabrics in modern decorator colors are available for textured, plain, mottled and fabric prints - especially for use in folding doors supplied by leading plastic manufacturers in the industry.

EXTRUDED ALUMINUM SHIM CHANNEL FOR PLASTER

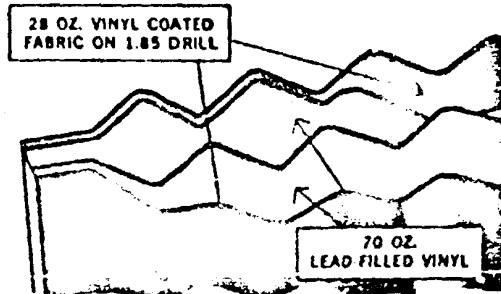
Available for concealed type track. May be used as plaster stop or acoustic tile moulding.

FINISH MOULDINGS

Of extruded aluminum accommodate vinyl bumper, provides positive seal in closed position.

Compact Stack Ratio: 1" 1 1/2" 3"


CORPORATION



Exclusive Sound Deadening Liner

Curtition's new VL-23 and VL-2 folding doors are covered with an attractive 28 oz. vinyl coated fabric on 1.85 drill. This covering is fire resistant and mildew proof. In back of the covering is an exclusive 70 oz. lead filled vinyl with a fiber glass backing. This lead-filled liner has unique sound deadening properties. A similar type is used in the construction of passenger jet aircraft due to its sound deadening qualities.



Curtition Posts

Concealed steel clips are used to fasten the jamb post to a wall, casing, or sliding jamb. When the door is to operate at either end, the fixed jamb is replaced by a lead post known as a rolling post. Rolling posts are pre-punched to take handles, latches, and locks as original factory equipment or as field installed accessories. These posts are reinforced on high partitions as shown and are common to all Curtition doors.

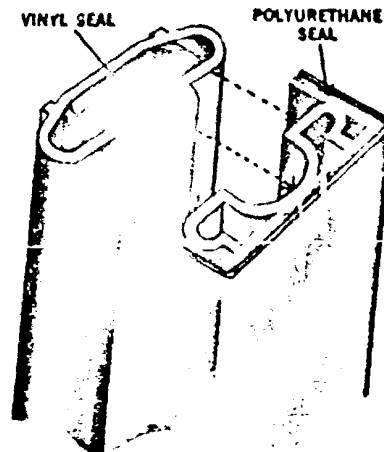
Height	Lead Post		Rolling Post		Reinforced Jamb	
	Single	Double	Single	Double	Single	Reinforced
Up to 4'	X		X		X	
11' 6"		X		X	X	
14' 20"		X		X		X

SOUND TRANSMISSION LOSS TESTS - (ATTENUATIONS) - WESTERN ELECTRO ACOUSTIC LABORATORY, INC. - MAY 1960

FREQUENCIES	125	175	250	350	500	700	1000	2000	4000	Average 1	Average 2
DOOR DESCRIPTION											
SOUND CONTROL 70 OZ. LEAD FILLED VINYL LINER WITH 28 OZ. VINYL COVERING PLUS SWEEP STRIPS SOUND CHANNEL AND DOUBLE ACTION LATCH	18.5	24.5	23.3	30.8	30.8	35.8	39.8	45.8	52.2	33.5	39.2
MARK XX 28 OZ. VINYL LINERS WITH 28 OZ. VINYL COVERING SWEEP STRIPS SOUND CHANNEL AND DOUBLE ACTION LATCH	18.5	19.0	15.8	23.8	23.3	27.3	31.3	42.8	49.7	28.0	33.0
MARK XX 28 OZ. COVERINGS PLUS SWEEP STRIPS SOUND CHANNEL AND DOUBLE ACTION LATCH	19.0	18.0	11.3	11.8	11.8	16.3	22.3	35.3	38.7	20.5	22.7

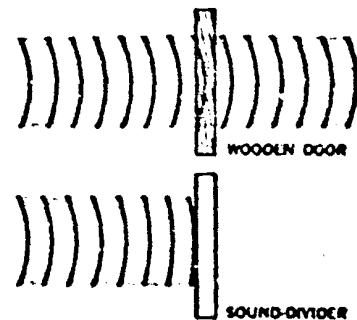
Door Weights: VL 2 - 4.25 lbs. per sq. ft.
VL 23 - 4.50 lbs. per sq. ft.

Note: Weights given allow for structural safety margin.



Triple Seal Sound Sealing Channel

As illustrated, the lead post sealing jamb forms a triple seal sound barrier when engaged with the sound sealing channel.



The average wooden door has a decibel rating of 18 to 20 over 9 frequencies, while Curtition's new "SOUND DIVIDER" VL-23 and VL-2 have an average rating of 33.8 over 9 frequencies.

CURTITION SOUND DIVIDER SPECIFICATIONS

GENERAL

Curtition Sound Divider shall be furnished and installed by an authorized representative of Curtition Corporation.

Sound Divider doors and partitions shall be top supported with out floor guide and shall be completely fabricated at the factory, including all hardware and track necessary for installation. They shall be guaranteed for one year against defects in material and/or workmanship.

STEEL FRAMEWORK

The rust resistant all steel full channel hinge frame shall be a minimum of 18 gauge. Intermediate channel hinges shall not exceed 3' 6" apart on units 7' 0" and higher. The all steel full channel hinge frame shall be interlocking, collapsible, extensible providing true pantograph action. Vertical $\frac{1}{2}$ " steel rods shall extend from the top row of full channel hinges through the intermediate channels to the bottom row and shall be welded to each other to form a complete integrated pantographic frame that will resist winding and side sway. It shall have an equal number of folds on each side and all mechanism for producing stability and pantograph action shall be contained within the steel frame. The all steel lead post shall be a minimum of 3 $\frac{1}{2}$ " by 1 $\frac{1}{2}$ " wide on all doors above 9' 4" in height. All stability shall be dependent upon the door frame without employing stiffness of the covering and shall not have unsightly auxiliary shields or covers.

Spacing linkage shall be furnished on all units, regardless of size, distributing the hinge load evenly, allowing a full fold to the volumes in all positions. The lead post shall remain at right angle to the track at all times. Anchor jacks shall be secured with steel clips, these clips shall be attached without necessitating removal of covering.

1. Sound Divider VL2: Each hinge shall be a true, full continuous channel design for the entire width of nine (9) inches. The hinge shall not remain flat at any portion necessitating the use of ribs attempting to accomplish the strength achieved with full channel hinges. Doors 8' 0" and less in height shall have one (1) row, 2 channels at the top, to create a true pantographic frame construction. Doors over 8' 0" high shall have two (2) rows of full channel hinges at the top linked together in such a manner as to form a solid unit of full channel hinge construction giving maximum strength and stability.
2. Sound Divider VL23: Doors 15' 0" and less in height shall have three (3) rows of full channel hinges at the top linked together in such a manner as to form a solid unit of full channel hinge construction, giving maximum strength and stability. Doors over 15' 0" high shall have three (3) rows of full channel hinges at the top and two (2) rows of full channel hinges at the bottom linked together in such a manner as to form a solid unit of full channel hinge construction giving maximum strength and stability.

COVERING

The outer covering fabric shall be attached to the steel frame by snap fasteners through concealed nylon webbing, electronically heat sealed to the inside surface of covering. No stitching shall appear on the face of the covering.

CONSTRUCTION

The covering shall be 1.85 drill fabric with virgin vinyl coating. Finished fabric shall have a minimum standard weight of 18.2 oz per square yard and 27 ounces per linear yard, 54" wide, plus 10% minus 5%.

CHARACTERISTICS

- (a) Flexibility: Coating shall not crack through to the fabric base after exposure to 174 hours at 110 degrees F in a standard Atlas Fadeometer, and there shall be no stiffening or appreciable discoloration.

- (b) Resistance to Cold: Material shall not crack through the fabric base when tested at zero degrees F in accordance with method described in the "Standard Test Methods" of the Vinyl Fabric Institute.

- (c) Abrasive Resistance: Fabric shall not be abraded to the cloth surface after 10,000 cycles on a Taber Abrader using CS 10 wheels and 1,000 grams on each arm.

- (d) Flex Resistance: Coating shall not crack or peel when subjected to 100,000 single flexes on the Chrysler Type Machine giving alternate bias pulls under load.

FLAME RESISTANCE

ALL COVERING MATERIALS, SEPARATELY AND IN COMBINATION, MUST PASS THE FOLLOWING FIRE CODES:

1. New York Board of Standards and Appeals
2. Fire Department, City of Boston
3. American Society for Testing Specification D 626 55
4. Federal Specification CCC T-191b, Method 5902

LABORATORY CERTIFICATION ON ALL PROPOSED MATERIALS WITH RESPECT TO ABOVE TESTS SHALL BE MADE AVAILABLE ON REQUEST.

TRACK & TROLLEY

Tracks shall be extruded aluminum and shall conform to at least .050 thick, less HEAVY DUTY and shall be of I beam construction incorporating a special taper to give smooth operation and prevent chattering as shown in AIA catalog 16M. Nylon tread double ball bearing wheels with steel inner and outer race shall be a standard part of this model.

SUB-CHANNEL

When requested for recessed track installation, sub channel to receive track, will be furnished. Installation must be made by others when installed in advance of door.

HARDWARE

Sound Divider doors shall be equipped with double action latch. All exposed hardware to be satin finish, brass or chrome, as specified. Push pull rods shall be furnished on all units 9' 4" or higher and/or 25' 0" in width. All doors and partitions shall be fabricated to receive complete interchangeable key lock units, which are adaptable to standard building master keying systems, all of which shall be an integral part of the door or partition. Schlage No. 2374 with lazy cam action shall be used.

SOUND CONTROL LINERS

These liners (applied under covering both sides of the frame) shall be 70 oz lead filled virgin vinyl with 0.30 glass base. These liners shall contain no paper or paper products and shall be a continuous diaphragm of a limp mass to conform to the steel frame in such a manner so as not to hamper the appearance or operation. The sound control liners shall be such that the dimensional stability of the glass base fabric, resisting the shrinkage, creates a stressed high density membrane for controlling sound energy. The sound liner shall conform to the requirement for permanent flame resistance as stipulated in Federal Specification CCC 191b, Method 5902. Laboratory certification of this test shall be made available on request.

SEALING

A polyurethane foam gasket which provides a "three point" tight seal between two doors or single door and jamb shall be an integral part of this sound channel. Sweep strips of flexible neoprene shall be used to close all crevices at top and bottom and both sides of the door. Plasticity of these sweep strips shall allow air to dissipate evenly throughout the entire width of the door, top and bottom, and not be dependent on holes at the lead post.

Improved design and construction changes may be made without notice.



CORPORATION

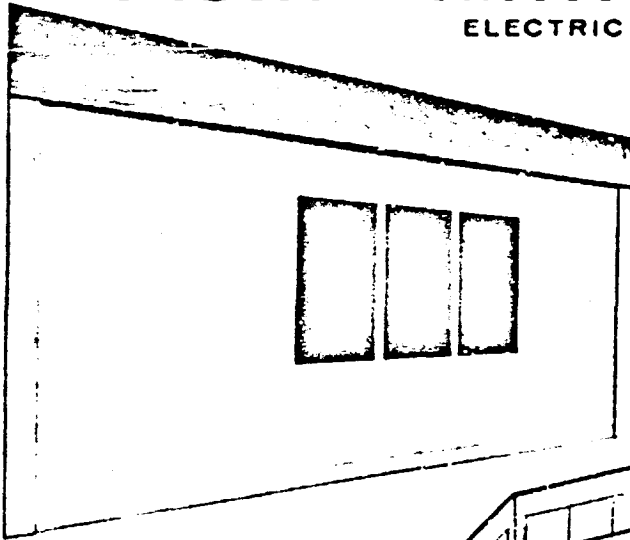
12616 CHADRON AVENUE, HAWTHORNE, CALIFORNIA • Spring 2-1491

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ALL RIGHTS RESERVED

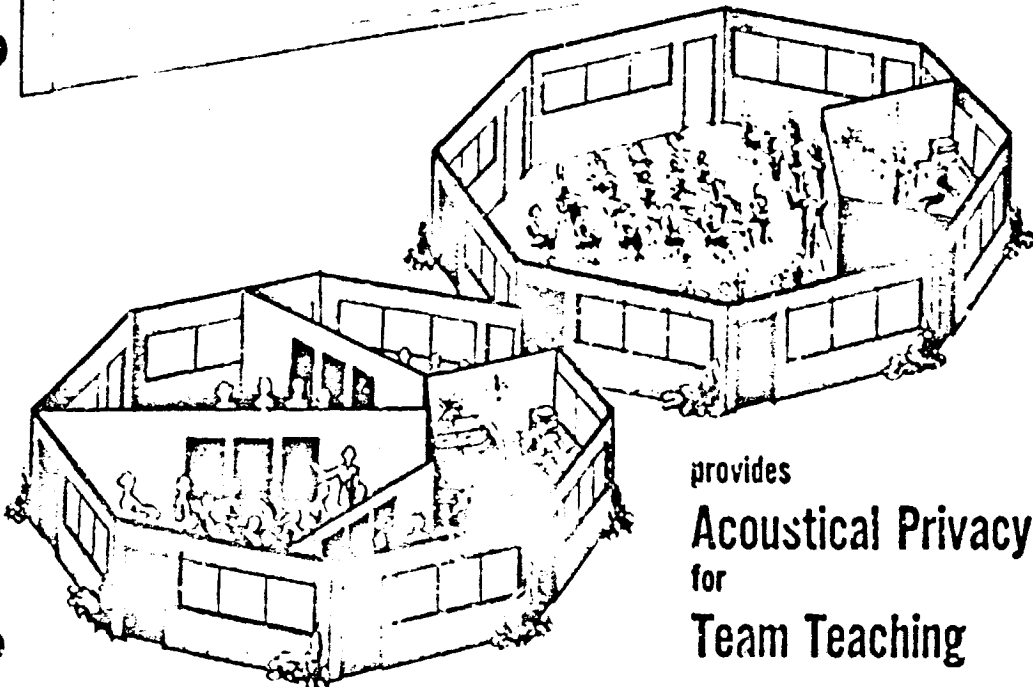
LeadX[®] ACOUSTICAL CURTAINS

ELECTRIC VERTICAL OPERATION



WITH

Chalk Panels



provides

Acoustical Privacy for Team Teaching

LeadX[®] ACOUSTICAL CURTAINS

LeadX Acoustical Curtains represent a revolutionary advancement in school partitioning. They combine visual separation and acoustic privacy for modern day team teaching.

These electrically operated curtains are an exclusive formulation of vinyl and lead, embodying the essentials of sound control, namely greater weight per square foot and greater density. Other materials take up to thirty times the thickness of LeadX acoustical construction to provide the same sound privacy.

LeadX Acoustical Curtains are housed in sound-proof ceiling enclosures with gasketed, vertical side guides. They are raised and lowered electrically.

Completely out of the way and out of sight, they allow an unbroken expanse of large area for mass student lecturing, yet are lowered in seconds by the touch of a switch to divide this same area into two, three, four or more separate rooms for team teaching. Once in place, the 1/2" thick LeadX Acoustical Curtains with their chalk panels, their physical and sound privacy offer advantages that cannot be found in a six inch cinder block wall.

Although LeadX Acoustical Curtains for school partitioning are completely new, the construction properties and unusual features of LeadX have been thoroughly proven in actual use. For more than five years we have manufactured LeadX in rolled sheeting for use as radiation protective aprons for personal protection and into other products for medical and industrial use. Today, LeadX is employed in hospitals, laboratories and industrial plants throughout the world.

Outstanding Features:

Allows assembly room or large areas to be instantly divided into separate rooms for team teaching.

Provides privacy and isolates sound.

Available with chalk panels and chalk pockets.

Electrically operated. Appears and disappears as required, in seconds.

No floor track.

The necessary sound-proofing qualities of weight per square foot and density, plus handling flexibility are provided in LeadX Acoustical Curtains by the formulation of vinyl and lead. These materials provide a "limp" mass wall of strength yet the 1/2" thickness is thin enough to be automatically rolled into a small enclosure.

When not in use the top roller mechanism of LeadX Acoustical Curtains are housed in ceiling enclosures. When in this position they take only 18 inches of space, regardless of height or length.

The top roller mechanism can be placed above suspended ceiling, showing only a thin slot in ceiling.

Tests by Riverbank Acoustical Laboratories to ASTM E-90-61T show 3 lb. LeadX gives a 9 frequency transmission loss average of 32 db and a sound transmission class of 34.

The lesser weight of LeadX Acoustical Curtains over conventional walls assure substantial savings.

Can be installed in present buildings.

Can be installed by maintenance men.

Safety factor: curtain operates only when key switch is held.

The flat surface is usable as a projection screen.

NOTE: We are constantly improving our products. Consequently there may be slight deviations from the drawings and specifications shown herein. We reserve the right to supply equipment of our standard construction at time of order.

DATA SHEET

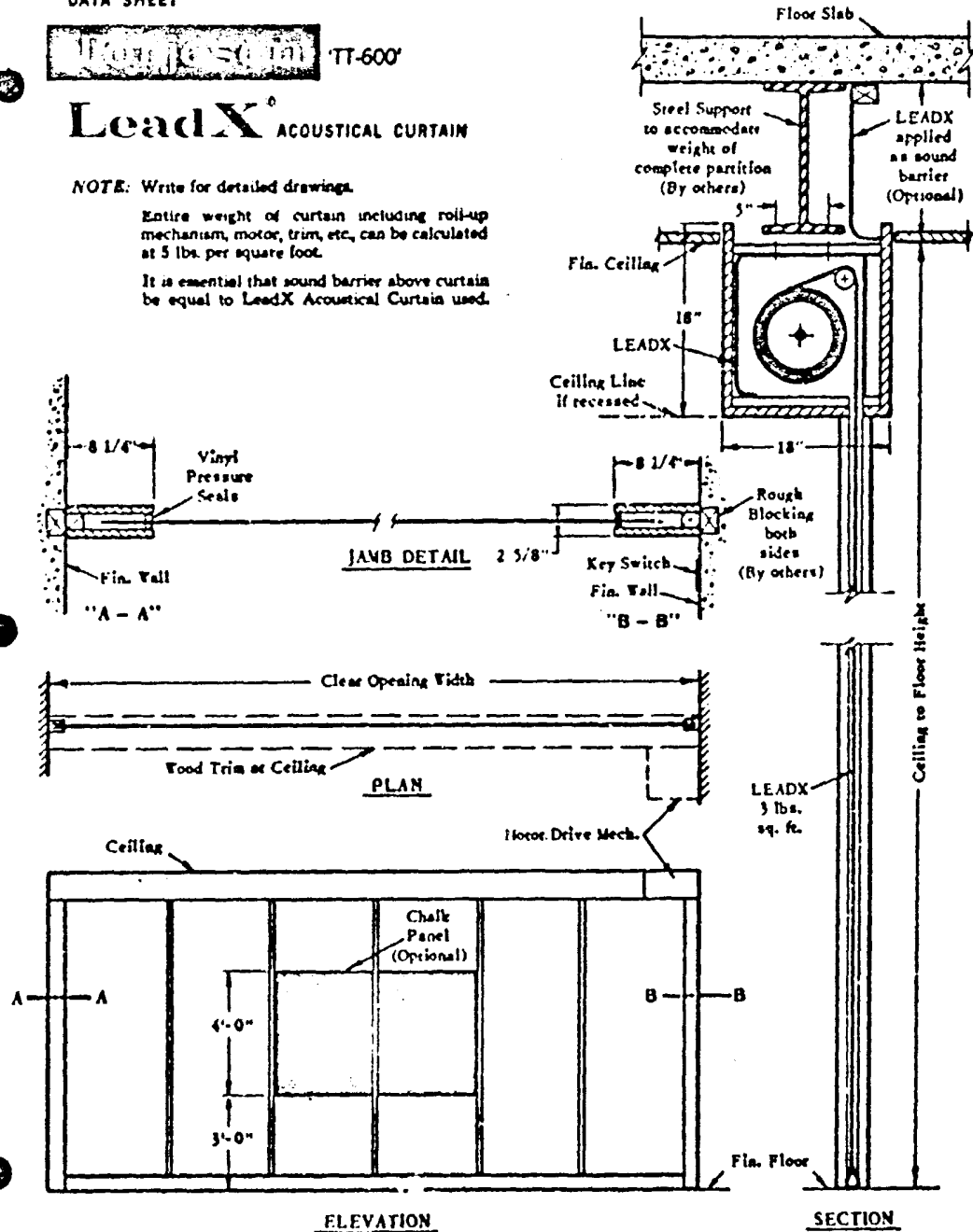
LeadX[®] TT-600'

LeadX[®] ACOUSTICAL CURTAIN

NOTE: Write for detailed drawings.

Entire weight of curtain including roll-up mechanism, motor, trim, etc., can be calculated at 5 lbs. per square foot.

It is essential that sound barrier above curtain be equal to LeadX Acoustical Curtain used.



SPECIFICATIONS

A. Description

- A1. Each partition shall consist of an automatic electrically operated roll up curtain. The curtain material shall be Acoustical LeadX weighing not less than 3 lbs. per sq. ft.
- A2. Acoustical LeadX shall be securely mounted on a one piece seamless steel tubular roller of sufficient diameter and wall thickness to prevent excessive deflection. At least two full turns of the attachment material shall remain on the roller. Precision machined gudgeons shall be secured into tube ends with extension shafts to receive end bearings. End bearings shall be ball bearing self-aligning, precision type flanged cartridges which in turn shall be bolted to steel end bearing plates. At drive end, shaft shall be keyed and a coupling shall be provided to connect the shaft of the tube roller to the output shaft of the gearhead motor. The coupling shall be of high grade low carbon content steel with bronze oil impregnated insert between the jaws to provide quiet flexible operation.
- A3. The gear head motor shall be a right angle combination double reduction synchromesh unit with asbestos protected motor, and one piece ball bearing mounted motor worm gear shaft. Disc type magnetic brake shall be integrally mounted. Gear head motor shall have sufficient horsepower and torque with 15% service factor. Brake shall provide instant stopping of curtain travel. Total up or down travel shall take approximately 30 seconds for an opening 10'-0" high.
- A4. All electrical controls shall be furnished complete such as reversing starters, with overhead protection, limit switches top and bottom in each guide, contactors, key control switches, etc. ready for interconnecting wiring by others. Power connection shall be furnished for 208-220 V, 3 phase, 60 cycle.
- A5. LeadX panels shall be selected from manufacturer's standard colors, matt finish, and shall have vertical joints 36" to 48" on center. LeadX shall not support combustion. Joints shall have LeadX laminated cover strips 3" wide on each side and of such weight that at no area in the entire curtain will the weight be less than 3 lbs. per sq. ft. The bottom edge of the curtain shall have a separate formed loop of 3 Lb. LeadX continuous between the guides. This loop shall be filled with a compensating continuous weight to give bearing on the floor. The weight shall be self compensating for variation in floor line but shall be rigid laterally. No floor track is permitted. At the head the LeadX curtain shall have primary bearing on a deflection relieving continuous idler tube roller with intermediate bearings before it is engaged on the driven roller tube. Curtain shall extend 4" into each side guide and shall be friction retained by continuous opposing vinyl covered polyurethane compression seals, one on each inside face of each side guide.
- A6. Woodwork shall be furnished complete for side jambs and guides, head and panel partition under motor operator, operator enclosure and incidental trim to finish the opening between walls and underside of structural beam or finish ceiling line as the case may be. Woodwork shall be sanded smooth to receive paint finish.
- A7. Woodwork framing the opening shall be lined with LeadX of weight so that the total barrier is at least as good in sound transmission loss as the LeadX curtain.
- A8. All structural framing brackets, clips, grounds, etc. shall be furnished for proper support of the unit and for mounting the woodwork.

- A9. Sound transmission loss for the LeadX panel shall be as follows:

Tests conducted by Riverbrook Acoustical Laboratories to ASTM E95 E1 E.
NINE FREQUENCY AVERAGE 32 SOUND TRANSMISSION CLASS 34

CPS	125	175	250	350	500	700	1000	2000	4000
Transmission Loss DB	26	26	28	28	30	32	35	41	44

- A10. Partition shall be Torjusen No. TT 600 as manufactured and installed by Torjusen, Inc., 209 - 5th Street, Brooklyn 32, New York.

B. Labor and Materials by Other Trades

- B1. Punching of holes in overhead supporting steel or furnishing and setting of inserts in supporting masonry. Torjusen will provide template for fastening locations.
- B2. All electrical wiring including rough boxes, conduit, power outlet, wire, etc.
- B3. Painting and finishing of woodwork by others.

C. Shop Drawings

- C1. Submit shop drawings for approval showing all details and connections to other work, including complete electrical wiring diagrams.

D. Workmanship and Installation

- D1. All workmanship shall be the best of its respective kind.
- D2. Installation shall be made by skilled mechanics in accordance with manufacturer's instructions as approved by the Architect.
- D3. The manufacturer shall guarantee the materials and workmanship for a period of one year.

