



## LEAD GLASS PRO

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### IMPORTANT NOTICE

#### PLEASE VERY CAREFULLY REVIEW THIS INFORMATION PRIOR TO ENGAGING IN LEAD WORK.

- A. Lead Sheet: Federal Specification QQ-L-201f, Grade C, thickness as indicated on Lead Protection Schedule. (As calculated by your qualified radiation health physicist).
1. Lead shielding requirements for radiation protection applications **MUST** be calculated by a qualified radiation health physicist or Department of Health Services, Radiological Division, and constructed and installed to current State and Federal Codes and Regulations and in compliance with NCRP #49 and #147 and all applicable local, state and federal lead safety, health and environmental codes, regulations, notifications, training, procedures and laws.
- B. Lead Backed Gypsum Board: As manufactured by Lead Glass Pro, ASTM C 36, and as follows:
1. Sheet Size: Width and length as required for support spacing to prevent cracking during handling.
  2. Thickness: Typically 5/8" but not less than 1/2" with lead backing as specified by a qualified radiation health physicist.

A single thickness of unpierced lead sheet is factory laminated under pressure to the back of gypsum board units. Lead value is marked on lead side of sheet (Examples are 1# (1/64"), 2# (1/32"), 2-1/2# (5/128"), 3# (3/64"), 4# (1/16"), 5# (5/64"), 6# (3/32"), 8# (1/8"), etc....)

Provide minimum 1-3/4" wide lead strips for lapping at all vertical joints to same height and thickness as lead on board.

- C. Accessories and Fasteners: Manufacturer's standards, maintaining equivalent protection as a system.

### LEAD BACKED DRYWALL

Our lead backed drywall is furnished as 1/2" and 5/8" gypsum board with 99.9% pure lead meeting Federal Specification QQ-L-201f, Grade C, factory laminated to the back side.

- Lead backed plywood also available for thicker lead values such as 16# (1/4") and thicker. (ACX or Fire-retardant)

### GENERAL NOTES ON INSTALLATION

Lead backed drywall **MUST** be installed vertically (I.E.: 4'0" WIDE x \_\_\_height) \* Minimum wall shielding height is 7'0" AFF. All framing, taping and finishing by others.

Studs must be vertical with minimum 20 gauge, maximum 16" spacing on center for installation of lead backed drywall.

Prior to installing, review all lead weights, loads and seismic considerations with a licensed structural engineer for proper framing, gauge, support, fastening and attachments. Ceiling framing must be "hard lid" as 12" on center to prevent sagging.

All penetrations in lead lined walls must be backed and adequately overlapped with lead of the same thickness as on the surrounding wall, with a minimum of 1/2" overlap or 2X the depth of the penetration all around the perimeter of each penetration.

**ABSOLUTELY NO OTHER TRADES OR PERSONS TO OCCUPY ROOM OR WORK AREA DURING ANY LEAD DRYWALL INSTALLATION PER CAL/OSHA STANDARDS AND CONSTRUCTION SAFETY ORDERS. CONTRACTOR / INSTALLER / OWNER AND JOBSITE SUPERVISION IS RESPONSIBLE TO STRICTLY ENFORCE THIS REQUIREMENT, WITHOUT EXCEPTION.**

### SPECIFICATION NOTES

All our lead sheet meets Federal Specification QQ-L-201f, Grade C

All gypsum wall boards meet Classification ASTM C 36.

### PERSONAL PROTECTION (Including but not limited to the following)

Use all proper, required personal protection (I.E: N100 respirators, gloves, eye protection, protective clothing, dust control and collection or monitoring, etc) – Never wear or take protective clothing home.

Never allow eating, drinking or smoking in lead work areas.

Wash hands, arms and face thoroughly after handling lead.

Practice good hygiene and good ventilation in work areas.

Contractor / Installer must always research and fully comply with all current local, state and Federal health, environmental and safety codes, laws, proper procedures, training, monitoring, notifications and requirements prior to engaging in any lead work.

Review and document all required safety training prior to engaging in lead work.

Never allow any other trades or persons in the lead installation area.

Review and keep Lead Material Safety Data Sheet (MSDS) readily available at project location during installation.

### GENERAL NOTES ON STORAGE

Always keep lead backed drywall in a cool, dry place; never in sun or moisture

## LEAD BACKED DRYWALL INSTALLATION

- A. **Lead backed drywall** should always be installed vertically on walls / studs (never horizontally) and should be first side up, first layer up on walls, lead side toward the studs. Cutting can be performed with a drywall knife by scoring both sides of the intended cut-out. Power tools should be avoided and not utilized for cutting lead or lead backed drywall. Sheets must be carefully installed in proper lead thicknesses and at exact walls and locations as specified by your most current physicist shielding report and floor plan. If ceiling shielding is required, framing should be as "hard lid" 12" on center to prevent sagging and of a gauge and size stud as determined and specified by your project structural engineer.
- B. **Sheet lead backing of all penetrations** (I.E.: electrical, plumbing, medical gas and HVAC) should be completed prior to installation of lead backed drywall and always the same lead value (thickness), or greater, as lead backed drywall. Lead shielding overlap of penetration should be no less than 2X the depth of the penetration on all sides of the perimeter of penetration (I.E.: a 4" x 4" X 2" deep box will require a 12" x 12" piece of sheet lead backing). Sheet lead can be peeled off the back of lead backed drywall fall-off remnants, as long as it is of the same lead value (thickness) as the wall that penetration occurs in and proper overlaps are maintained. Same techniques apply to ceiling shielding.
- C. **Lead batten strips** must be installed prior to lead backed drywall at all vertical joints and inside/outside corners. Lead battens are screwed either on the face of wood studs or inside the "C" of metal studs, fastened at top and bottom to avoid twist or sagging. (Fasten batten strip at top, bottom and center). Batten strips are minimum 1-3/4" wide and same height and thickness as lead on drywall.
- The use of lead batten strips behind every stud for protecting screw penetrations is the preferred method for installing lead backed drywall and it is the only acceptable method where heavy lead (16# and more) is involved. This method provides a wider angle of shielding and omits the necessity of taping over every screw to help prevent "screw pops" caused by lead tabs or lead discs that have broken the drywall surface paper; thereby compromising the strength and structural integrity of the board.
- From the perspective of radiation protection system continuity, this method is superior and practical, since it maintains drywall strength and allows for future attachments or modifications.
- D. **Fastener penetration shielding:** screws must be covered with lead of same value as wall, either by a lead tab screwed through one end and folded over head of screw or a lead disc glued onto head of screw after screw is fastened with minimum 1/16" inset below the drywall surface. All fastener shielding must be taped to help reduce the chance of "popping". Set screw gun cone to recess screw head into drywall board to allow for lead tab or disc thickness, without fracturing paper face. Alternate option: fasteners may be shielded by a lead batten strip inside the stud wall, see above.
- E. **Over existing walls**, lead backed drywall will require a construction adhesive lamination (similar to installing paneling) and coarse screw fasteners with proper fastener penetration shielding (lead battens are to be installed first at vertical joint locations and inside/outside corners).
- F. Always properly dispose of sheet lead trimmings either by properly recycling or utilizing a certified, licensed and qualified disposal service. Never put in trash or general waste. Clean up with proper HEPA vacuuming, while still wearing proper personal protection. Any demolition or abatement must be performed by a fully licensed and certified lead abatement service. Before using any lead products, customer should be familiar with the information and requirements contained in the Federal Standard for Occupational Exposure to Lead (29CFR1926.62 or CFR 1910.1025 as applies) and in California Lead in Construction Standard T8 CCR 1532.1 (CALOSHA), and also current lead MSDS.
- Customer must be thoroughly knowledgeable about all lead safety, health and environmental requirements, notifications, training and proper procedures before engaging in any work with potential lead exposure. Customer assumes all responsibility and liability in complying with all local, state and Federal health, safety and environmental codes, requirements, procedures and laws. Installer to thoroughly review the current shielding report and recommendations calculated by your radiation physicist prior to installation.
- **ABSOLUTELY NO OTHER TRADES OR PERSONS TO OCCUPY ROOM OR ANY WORK AREA DURING LEAD DRYWALL INSTALLATION PER CAL/OSHA STANDARDS AND CONSTRUCTION SAFETY ORDERS. CONTRACTOR / INSTALLER / OWNER AND JOBSITE SUPERVISION ARE RESPONSIBLE TO STRICTLY ENFORCE THIS REQUIREMENT, WITHOUT EXCEPTION.**
- G. THESE MATERIALS ARE FOR MEDICAL OR INDUSTRIAL USE ONLY. THESE MATERIALS ARE NOT TO BE UTILIZED IN ANY RESIDENTIAL APPLICATIONS.
- H. Lead Glass Pro manufactures all materials to customer specifications. Customer / Installer assumes all responsibility and liability for verification of radiation shielding protection design and requirements, code compliance and adequacy of shielding of radiation energy levels, types and orientation.
- It is strongly recommended that Customer should have all shielding projects completely reviewed, tested and surveyed by the original qualified radiation health physicist of record after installation and prior to equipment use or occupancy.