

Lead Lined Plywood

Lead lined plywood is typically utilized in applications requiring a lead thickness in excess of 1/8". Any grade of plywood including fire-treated is available. Plywood panels are pressure laminated with a permanent adhesive to unpierced sheet lead and arranged to provide effective lead shielding through all joints. Depending on required lead thickness (determined by a health physicist), panels can be reduced in size to facilitate installation.

Standard Installation:

- Place leaded side of plywood against studs.
- Drill pilot holes for screws to prevent deformation of lead.
- A minimum lead overlap of one inch is required at all joints and corners.
- Extend lead overhang at least one inch into all frames or openings.
- Panels can be sized to match stud widths. This will require the installation of a batten strip along the seam.
- The area between the batten strips can be filled with non-leaded plywood to facilitate the installation of the finished wall.
- Install lead over or behind all penetrations, cuts, or punctures to ensure continuity of radiation shielding.





Sheet Lead

Sheet lead meets or exceeds Federal Specification QQ-L-201 F Grade C and ASTM B749-03.

Pitts Little sheet lead is ideal for radiation protection as well as sound and water proofing applications. Our lead is 99.5% or more pure and is milled to required specifications. It is available in widths up to eight feet, lengths up to 25 feet, and any required thickness.

Sheet Lead Thickness Chart:

POUNDS PER SQ. FT.	ACTUAL THICKNESS	APP. THICKNESS IN INCHES		APP. THICKNESS IN MILLIMETERS
		DECIMAL	FRACTION	
1		.0158	$\frac{1}{6}$	0.397
2		.0312	$\frac{1}{32}$	0.794
2 ½		.0391	$\frac{5}{126}$	1.000
3		.0468	$\frac{3}{64}$	1.191
3 ½		.0547	$\frac{7}{128}$	1.390
4		.0625	$\frac{1}{16}$	1.587
5		.0781	$\frac{5}{64}$	1.980
6		.0937	$\frac{3}{32}$	2.381
8		.1250	$\frac{1}{8}$	3.175
10		.1563	$\frac{5}{32}$	3.969
12		.1857	$\frac{3}{16}$	4.763
14		.2188	$\frac{7}{32}$	5.558
15		.2500	$\frac{1}{4}$	6.350
20		.3333	$\frac{1}{3}$	8.500
24		.40000	$\frac{2}{5}$	10.100
30		.5000	$\frac{1}{2}$	12.700
40		.6667	$\frac{2}{3}$	16.900
60		1.000	1"	25.400

NCPR REPORT 147

Structural Shielding Designs for Medical X-Ray Imaging Facilities

Recommendations of the

NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS

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2.3 Shielding Design Elements

2.3.1.1 *Sheet Lead*

(Paragraph 2)

For typical shielding applications, a lead sheet is glued to a sheet of gypsum wallboard and installed lead inward with nails or screws on wooden or metal studs. X-ray images of wall segments show that insertion of the nails or screws does not result in significant radiation leaks⁷. In fact, the steel nails or screws generally attenuate radiation equally, or more effectively, than the lead displaced by the nails.

Therefore, steel nails or screws used to secure lead barriers need not be covered with lead discs or supplementary lead. However, where the edges of two lead sheets meet, the continuity of the shielding *shall* be ensured at the joints (Section 2.4.2)