

LX-57B X-RAY SHIELDING LEAD GLASS

TECHNICAL DATA SHEET

Materials

LX-57B is a lead barium type glass of high optical grade with over 60 percent heavy metal oxide, including at least 55 percent PbO. It offers high light transmission and does not discolor due to radiation.

We stock the industry's largest sizes - up to 48"x102".

Properties of 7mm, 9mm, 14mm, 17mm LX-57B

- Minimum density: 4.36 (g/cm³)
- Refractive index (Nd): 1.71
- Thermal expansion coefficient: 80 x 10⁻⁷/°C (30-380°)
- Knoop hardness: 370

Thickness and Lead Equivalent

Thickness	7mm	9 mm	14 mm	17 mm
Lead Equivalent (in)	*1/16"	*5/64"	*7/64"	*1/8"
Lead Equivalent (mmPb)	1.6mm	2.0mm	3.0mm	3.3mm
X-Ray Tube Peak Voltage (kV)	150	150	200	200
Weight (lbs/ft ²)	6.5	8.1	12.5	14.8
Safety Laminated	No	No	No	Yes (7mm + 9mm)

*Lead equivalent is guaranteed in (mmPb). The converted fraction (in.) is less than the lead equivalent (mmPb); fraction is approximate.

LX-57B Lead Glass vs. Acrylic/Plastic

Relative Thickness

For the same lead equivalent, acrylic/plastic has to be approximately five times thicker than LX-57B lead glass - significantly reducing observation capabilities. For example, at 1.8mm-2.0 mmPb, lead glass would be 5/16" thick. Acrylic/plastic would be approximately 1-1/2" thick for the same protection. The extra thickness of acrylic/plastic may require special framing. LX-57B fits standard sized frames.

Resistance to Discoloration

Acrylic/plastic discolors when exposed to ultraviolet rays. Acrylic/plastic is also susceptible to discoloration from chemicals in everyday use, such as cleaning materials...or even smoke. LX-57B glass suffers no discoloration due to radiation and has a high chemical resistance as well. The durable LX-57B glass retains its appealing visual clarity.

Weight Factor

For the same size requirement and lead equivalent, acrylic/plastic has nearly twice the weight of glass (1.8 times).

Light Transmittance

For the same lead equivalent, glass transmits more light than acrylic/plastic.

Combustibility

LX-57B is an incombustible material because it's glass. Acrylic/plastic is combustible. When acrylic/plastic burns, it emits toxic fumes. When acrylic/plastic is cut, it may emit toxic fumes. This does not happen with LX-57B lead glass.

Surface Hardness

Both surfaces of LX-57B glass are polished. Using Mohs' hardness scale, LX-57B tests at level 6 (compatible to feldspar, a constituent of granite). Acrylic/plastic test at level 3 (equivalent to calcite, a constituent of limestone and chalk).



Abrasive Resistance

LX-57B has greater resistance to scratches because of its hard surface. Unlike glass, acrylic/plastic can be easily scratched in cleaning because of its softer surface, reducing its light transmittance and clarity.