

# X-ray Protective Glass Properties

## Minimum Lead Equivalence in mm at stated X-Ray Potential

Thickness Range (mm)	100 kV	110 kV	150 kV	200 kV	250 kV	300 kV
7.0—8.5	2.3	2.3	2.1	1.8	1.8	1.8
8.5—10.0	2.8	2.8	2.5	2.2	2.2	2.2
11.0—13.0	3.6	3.6	3.3	2.8	2.7	2.8

These values were determined by the National Radiological Protection Board (NRPB) - an independent body - using procedures that satisfy both BS 4031 and JIS Z4501 requirements. In addition, these lead equivalence results satisfy the requirements of JIS R3701-1990 within the range of 0 to 300 kV.

### Optical Properties

Refractive Index	Nd	1,757
Abbe Value	vd	29.7
Transmittance in % for 5mm path	315 nm	Nil
Transmittance in % for 5mm path	350 nm	0.05

### Mechanical / Electrical Properties

Density (minimum)	G/cm <sup>3</sup>	4.8
Knoop Hardness	Kg/mm <sup>2</sup>	440
Youngs Modulus	N/mm <sup>2</sup> x 10 <sup>3</sup>	62.7
Poissons Ratio		0.23
Brewster Coefficient		0.88
Dielectric Constant		11.0

## Heavy Metal Content

Lead (pb)	48%
Barium (Ba)	15%

## Thermal Properties

Exp. Coefficient (20—300° C)	$\times 10^{-7}/^{\circ}\text{C}$	81.8
Annealing Temperature	$10^{13}$ Poise	558
Softening Temperature	$10^{7.6}$ Poise	685

## Care Instructions

- Use only water, non-abrasive cleaning agents and soft cloth.
- Glass can be disinfected by using commercially available disinfectants. A disinfection by UV exposure is also possible.
- Radiation shielding glass should not be exposed to humidity or temperature fluctuations or acid gases.
- When installing, care should be taken that the sealing agents do not contain any acid or alkaline substances. Labels may cause staining on the glass surface by the reaction of the adhesive.

Remove the protective plastic immediately before installing. Do not use any sharp objects.

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