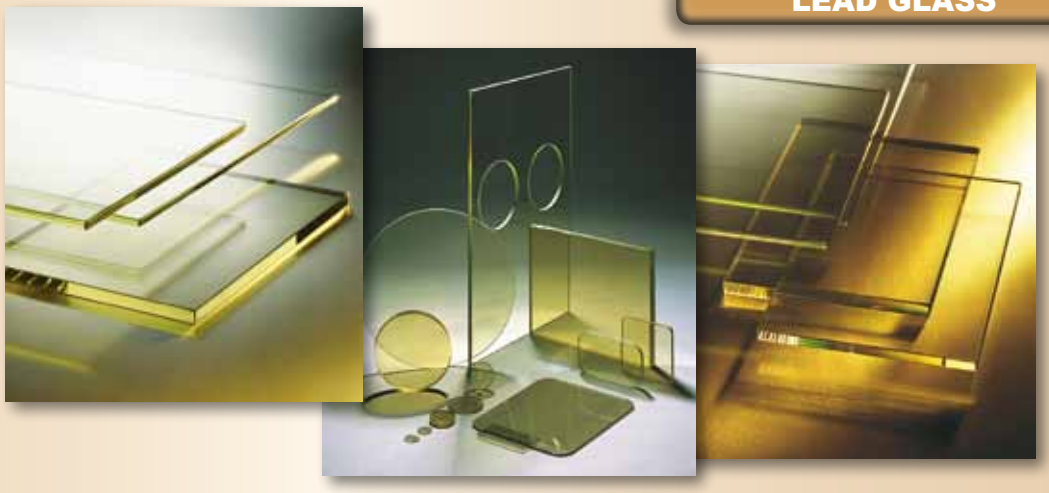
PRIMAX® BERLIN GMBH

X-RAY PROTECTION

LEAD GLASS

Radiation Shielding Glass RD 50

Radiation shielding glasses are used where transparent protection against ionizing radiation is necessary.
Radiation shielding glass RD 50 is used in X-ray rooms, operating theatres, radiation therapy rooms, dental clinics, laboratories, and for material testing. Applications include observation windows and intercommunication windows, door glazings, panoramic glazings, mobile protection walls, protective panels for check-up systems.



Available sizes and lead equivalents in mm Pb*

Tube voltage in kV	80	110	200	max. available cut size in mm (length x width)	max. weight per m^2 in kg
Glass thickness (in mm)					
5.0 – 6.5	1.5 mm Pb	1.5 mm Pb	1.4 mm Pb	1700 x 1000	33
7.0 – 8.5	2.1 mm Pb	2.2 mm Pb	2.0 mm Pb	2100 x 1050	43
8.5 – 10.0	2.6 mm Pb	2.6 mm Pb	2.4 mm Pb	2100 x 1050	51
10.0 – 11.5	3.1 mm Pb	3.1 mm Pb	2.9 mm Pb	2000 x 1000	59
11.5 – 13.0	3.6 mm Pb	3.6 mm Pb	3.3 mm Pb	2000 x 1000	66
16.0 – 18.0	5.0 mm Pb	5.0 mm Pb	4.6 mm Pb	1500 x 800	91
20.0 – 22.0	6.2 mm Pb	6.3 mm Pb	5.8 mm Pb	1500 x 800	112

* The leaded equivalent in mm Pb, defines the protective effect of the glass compared to a lead wall.
Example: A glass with 1.5 mm Pb offers the same protective effect as a 1.5 mm thick lead wall.
Lead equivalents above 6.3 mm Pb can be reached by laminating several panels.

Technical Data

Optical properties:

Refractive index n_D at 20°C	1.79
Luminous transmittance (d= 5.0 mm)	85 %

Chemical properties:

Hydrolytic class as per DIN ISO 719	HGB 1
Lead oxide content (PbO)	≥65 %
Heavy metallic oxide content total	≥70 %

Mechanical properties:

Density in g/cm^3 (condition as supplied)	≥5.05

UV-Resistance:

Very small loss in transmission after continious UV exposure, invisible to eye	<1 %

A large surface control window made from RD 50 radiation shielding glass enables the technician to monitor the x-ray process.

For quick and easy use: a mobile protection wall made of RD 50 radiation shielding glass.

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Radiation Shielding Glass RD 30

RD 30 is used against X-scattered rays at mammography work stations.

Radiation shielding glass RD 30 has a neutral color and meets the requirements of IEC 61331-2 and DIN 6841.

Shock resistance:
RD 30 can be thermally toughened and supplied as safety glass.

In a mammography work station, a protective shield made from RD 30 enables the technician to be near to the patient.

Available sizes and lead equivalents in mm Pb for RD 30

Tube voltage in kV	56	80	100	120	max. available cut size in mm (length x width)	max. weight per m^2 in kg
Glass thickness in mm/inch 6.0±0.25/0.236±0.010	≥0.5 mm Pb	≥0.5 mm Pb	≥0.5 mm Pb	≥0.5 mm Pb	2400 x 1700/94.49 x 66.93	20

Technical Data

Optical properties:

Refractive index n_e at 20°C/annealed at 40°C)	1,579
Luminous transmittance (d=6,0 mm)	90,5%

Chemical properties:

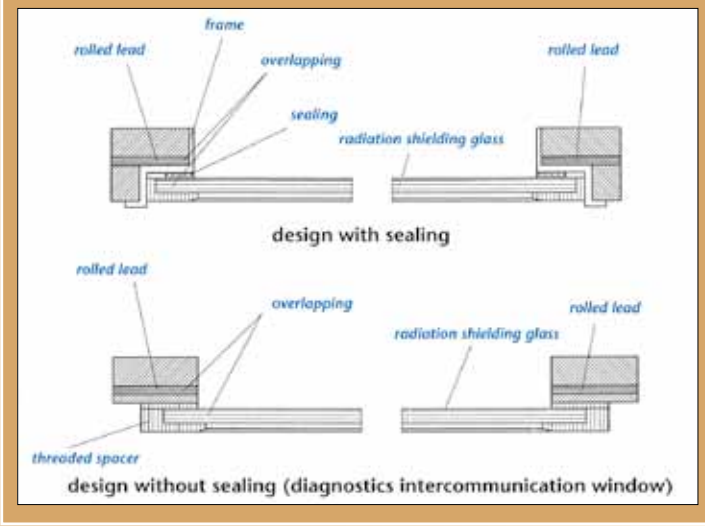
Hydralyticclass class as per DIN ISO 719	HGB 3
Lead oxide content (PbO)	≥ 22%
Heavy metallic oxide content total	≥ 23%

Mechanical properties:

Density in g/cm³ (condition as supplied)	≥ 3.13

UV-Resistance:
Excellent. After continuous UV exposure, virtually no transmission loss is measurable.

Basic diagram for the installation of RD50/30 radiation shielding glass into window and door frames



- Remove the protection film on radiation shielding glass before installing it. Do not use any sharp objects to remove.
- Please care about the construction regulations (radiation protection rules for X-ray equipment applicable at site – in Germany based on DIN 6812) when assembling the glass.
- Pay attention to a sufficient overlapping of the radiation shielding when assembling.

Notice:
Alternatively to Lead Glass products we may provide also Transparent Lead Acrylic (plastic).

This material is extremely break-proof, bendable and drillable. It is especially recommended in case big size protection viewing walls which require an undisturbed vista as this material may be used frameless and delivered in bigger dimensions compared to lead glass.
As it is – on the other hand – much thicker and more heavy (at same protection level) the user must finally set his preferences based on his purpose of use.