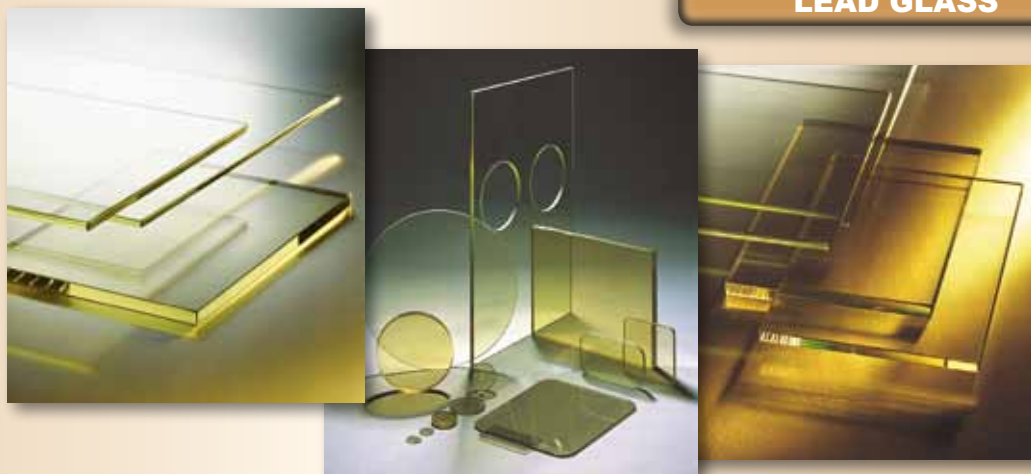


### Radiation Shielding Glass

Radiation shielding glasses are used where transparent protection against ionizing radiation is necessary.

Radiation shielding glass 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.



### Protection Level / Measurements / Packing

Thickness mm	Minimum Lead Equivalence (mm) for stated X-ray tube voltage							Weight kg/m <sup>2</sup>
	80 kV	100 kV	110 kV	150 kV	200 kV	250 kV	300 kV	
4,0-5,5	1,3	1,3	1,3	1,2	1,0	1,0	1,0	26,4
5,0-6,5	1,7	1,7	1,7	1,5	1,3	1,3	1,3	31,2
7,0-8,5	2,3	2,3	2,3	2,0	1,8	1,7	1,8	40,8
8,5-10,0	2,8	2,8	2,8	2,6	2,1	2,1	2,1	48,0
10,0-12,0	3,3	3,3	3,3	2,9	2,5	2,6	2,6	57,6
11,0-13,0	N/A	3,5	3,6	3,2	2,7	2,7	2,8	62,4
14,0-16,0	N/A	4,4	4,7	4,2	3,5	3,6	4,0	76,8
16,0-18,0	N/A	N/A	N/A	4,8	4,0	4,1	4,3	86,4
18,0-20,0	N/A	N/A	N/A	5,4	4,4	4,5	4,7	96,0

N/A = X-ray transmission below level of detection

Material is supplied as polished plates cut to customer requirements. Max. size is 2,80 x 1,40 m (for 7,0-8,5 mm glass), other glass types max. cut to sizes between 2,00 x 1,00 m and 2,44 x 1,22 m, details on request. Glasses are packed in wooden crates.

### Technical Data

#### Optical Properties:

Refractive Index  $n_D$  1,76  
 Transmission % @ 550nm through 5mm path  $\geq 85,0$

#### Chemical properties:

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

#### Mechanical properties:

Density (g/cm<sup>3</sup>) 4,8  
 Knoop Hardness (kg/mm<sup>2</sup>) 440  
 Young's Modulus (GPa) 62,7  
 Poisson's Ratio 0,23  
 Coefficient of Thermal Expansion (x10<sup>-7</sup>/°C) 81,8



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



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

# 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 <sup>2</sup> 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%

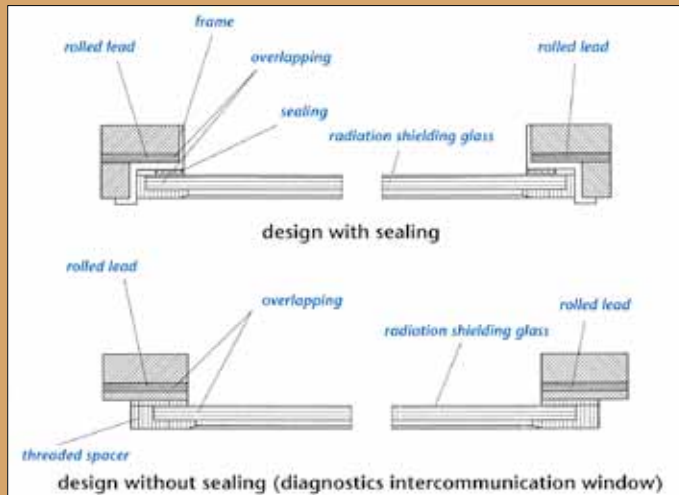
### Mechanical properties:

Density in g/cm<sup>3</sup> (condition as supplied) ≥ 3.13

### UV-Resistance:

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

## Basic diagram for installation of 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.

## Eye Protection

- X-ray protective glasses are available in two protection levels
  - type FG 50 protection level front=0,50/side=0,50 mm Pb
  - type FG 75 protection level front=0,75/side=0,50 mm Pb
- Transmit rate of lens not less than 80 per cent
- Frames are available in red, blue and green

