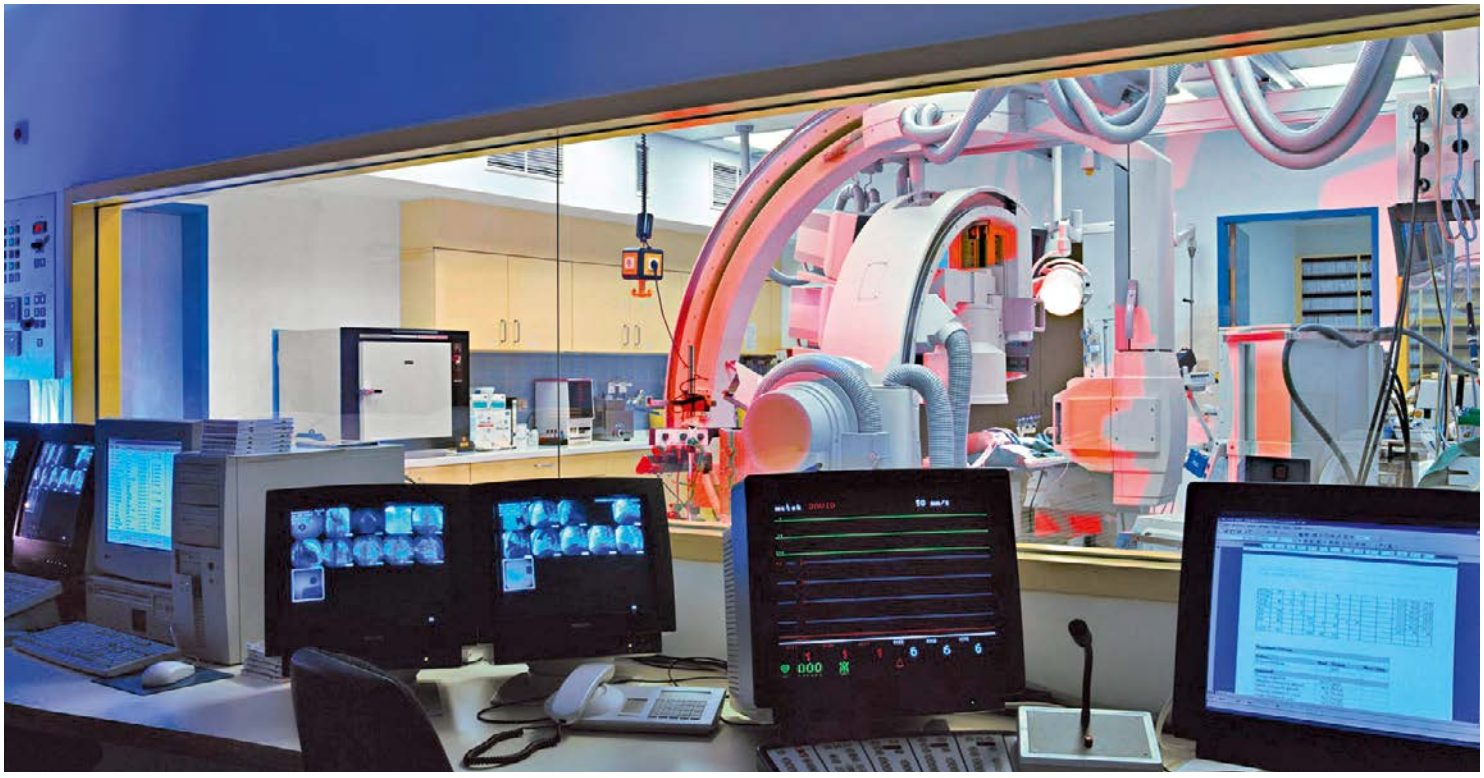
On the safe side

SCHOTT radiation shielding glass RD 50®



SCHOTT radiation shielding glass provides excellent protection against gamma and X-rays. When it comes to shielding harmful radiation, no compromises are possible. This is why more and more customers in the fields of medicine, science, and industry are relying on radiation shielding glass from SCHOTT. Thanks to its high density, RD 50® offers high X-ray absorption even with relatively thin glass, and meets the requirements of the German Institute for Standardization, European Standardization and the International Electrotechnical Commission.

Radiation shielding glass made to measure

Upon request, SCHOTT processes its radiation shielding glass into various versions: edge and bevel grinding, holes and cut-outs are just as possible as further processing into a glass composite that performs additional functions. RD 50® can also be processed with cast resin, pvb-film laminates, insulating glass, and be designed using screen printing. We deliver RD 50® in maximum dimensions in every geometric shape. SCHOTT can also provide you with the contact details of suitable suppliers in your area for RD 50®, regardless of whether you need care products, sealing materials and profiles or other accessories.

SCHOTT RD 50® for PET applications

Due to its special composition, RD 50® is also ideal for use in PET applications and offers an excellent protective effect. RD 50® can thus be used in combination with PET and CT.

This is unique to SCHOTT RD 50®

- RD RD 50® is the monolithic X-ray shielding glass with the widest range of thicknesses.
- RD 50® provides high X-ray absorption even with thin glass.
- RD 50® can be supplied in different versions, including bent shapes, and as toughened glass.

Other advantages of SCHOTT RD 50®

- RD 50® is available in large sizes.
- RD 50® is non-flammable.
- RD 50® is more scratch-resistant than acrylic.
- Higher lead equivalents can be achieved by using composites.
- RD 50® is available with holes and cut-outs in the desired sizes.
- RD 50® can be processed into insulating glass in combination with soundcontrol or heat protection functions, for example.

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RD 50®: Lead equivalents in mm Pb for X-ray quality and maximum delivery dimensions

Min. thickness d mm	Max. thickness d mm	Attenuation equivalent in mm Pb at a tube voltage of:					Max. weight kg/m²	Max. dimensions mm × mm
		80 kV	100 kV	110 kV*	150 kV	200 kV		
5.0	7.0	1.5	1.5	1.5	1.5	1.4	35	2,400 × 1,220
7.0	9.0	2.1	2.1	2.1	2.1	2.0	45	2,400 × 1,220
8.5	10.5	2.6	2.6	2.5	2.5	2.4	53	2,400 × 1,220
10.0	12.0	3.1	3.1	3.0	3.0	2.9	61	2,400 × 1,220
11.5	14.0	3.5	3.6	3.5	3.5	3.3	71	2,400 × 1,220
16.0	19.0	–	5.0	4.9	4.9	4.6	96	1,500 × 1,220
20.0	23.0	–	6.3	6.1	6.1	5.8	116	1,500 × 1,220

* no tube voltage acc. to DIN EN 61331-1; other tube voltages upon request.

RD 50®: Lead equivalents in mm Pb for radionuclides

Nuclide	Attenuation equivalent in mm Pb with a thickness d of:							
	4.0 mm	5.0 mm	7.0 mm	8.5 mm	10.0 mm	11.5 mm	16.0 mm	20.0 mm
C-11, N-13, O-15, F-18	1.4	1.8	2.6	3.1	3.7	4.2	5.9	7.4
Co-58	1.6	2.0	2.8	3.4	4.0	4.6	6.4	7.9
Co-60	1.7	2.2	3.1	3.7	4.4	5.1	7.1	8.9
Fe-59	1.7	2.2	3.1	3.7	4.4	5.1	7.0	8.8
Tc-99m	1.1	1.4	2.0	2.4	2.9	3.3	4.6	5.7

Technical data for RD 50®

Optical properties

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

Chemical properties

Hydrolytic class according to DIN ISO 719	HGB 1
Lead oxide content (PbO)	≥ 65 %
Total heavy metal content	≥ 70 %

Mechanical properties

Density in g/cm³ (as-delivered condition)	≥ 5.05

Other properties

Glass thickness	8.1 mm*
Evaluated sound insulation value R_w	
Spectral adaptation values C and C_{tr}	
R_w (C; C_{tr}) =	41 (–3; –3) dB

* Sound reduction values for other thicknesses upon request.

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