

Protective Glass Windows for LiDAR



Protective glass windows from SCHOTT ensure high imaging quality and enable reliable 3D scanning of the surroundings. SCHOTT glass windows provide reliable protection to the LiDAR system's sensitive electronics and optics.

SCHOTT protective glass windows are available in black or clear visual appearance combined with highest transmission for your LiDAR wavelength.

Laser wavelengths

- 905 nm
- 1320 nm
- 1550 nm

Applications

- Automotive:
 - ADAS (Advanced Driver Assistance Systems)
 - Robotic cars
- Industrial
- Defense & Space

Optical advantages

- Optical quality
- Low wavefront distortion
- Free of birefringence
- Lowest signal loss for any polarization-state
- Optimized AR for large incident angles
- AR coating with customized reflection color

Mechanical strength

- Scratch-resistant coating
- Survives gravel testing
- High temperature resistant
- UV stability/no solarization
- Temperature-shock resistant
- Suitable for harsh environments

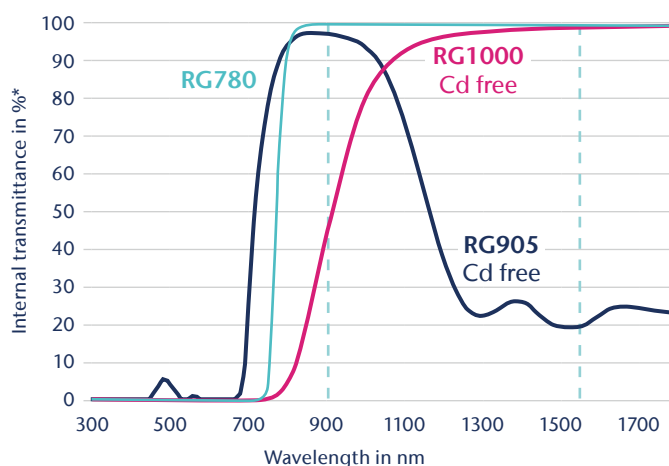
RG905, RG1000 and BOROFLOAT® 33 are Cadmium-free glasses ensuring compliance with automotive regulations.

The applied AR coatings enhance transmission, withstand harsh environments and allow you to customize the color appearance to your preference.

Application support

SCHOTT is “Your Partner for Excellence in Optics” and an expert to develop, design and choose the right protective glass window solution for your requirements. Please contact us with your specifications.

Black filter glasses offer high transmittance from NIR to SWIR

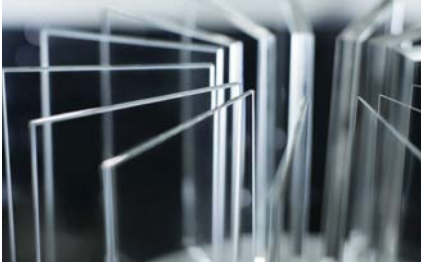


* The spectral internal transmittance describes the transmittance of the absorbing filter glass without considering reflection losses.

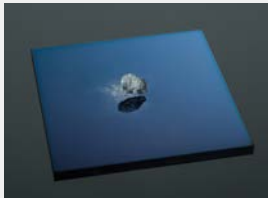
SCHOTT
glass made of ideas

Protective Glass Windows for LiDAR

Protective windows made out of glass offer a longer life-time and a higher optical reliability

RG filter glasses	BOROFLOAT® 33	Anti-reflective coatings
		
• Black visual appearance • High NIR transmittance and strong absorption in the visible range • Different thicknesses available 0.3 mm to 6 mm • Available for 905 nm and 1.300–1.550 nm • Thermal or chemical toughening to increase strength	• Excellent mechanical strength • Exceptionally high transparency • High chemical durability • Outstanding thermal resistance • Best in class for the gravel test	• AR coating with a hardness close to sapphire • Outstanding scratch-resistance, ensuring long term performance • Excellent coating adhesion to surface • Applied and proven for defense and watch applications • High transmission in VIS and NIR

Protective glass windows offer superior long-term optical reliability compared to polymer

Benefit for your system		Impact on:		
		Optical reliability	Lifetime	
	Scratch-resistance The superior surface hardness provides a clear optical aperture and protects the system against • Debris/particles in atmosphere • Sand behind LiDAR-windscreen wipers • Cleaning brushes or similar mechanical abrasion	✓	✓	
	Environmental stability The impermeable glass protects the sensitive optics and electronics from harsh environmental conditions • UV protection and no degradation due to UV radiation • Excellent water vapor barrier, avoiding corrosion & malfunction of the system	✓	✓	
	Robust coatings Glass offers superior coating adhesion and hardness. Coatings can provide additional functionality • High performance anti-reflective coating • High temperature heating possible (e.g. via TCO) • Hydrophobic coating for easier cleaning applicable	✓	✓	
	Reliability Ensuring consistent performance over lifetime • Long product life cycles • No aging, no deterioration, no degradation	✓	✓	

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