GLOBAL OPTICS

SCHOTT Colour Glass Filter

🔷 Key Properties of SCHOTT Colour Glass Filters

🌈 Precise Spectral Control: Engineered for accurate shaping of UV, visible, and NIR wavelength bands.
🔍 Stable Optical Performance: Spectral characteristics derive from intrinsic glass absorption, ensuring no drift over time.
🧪 High Environmental Durability: Resistant to humidity, temperature cycling, and UV exposure — ideal for long-term use.
🔬 Excellent Homogeneity: Uniform optical density for imaging, photometry, and analytical instrumentation.
📉 Wide Range of Spectral Types: Long-pass, short-pass, bandpass, neutral-density, and heat-absorbing filter families.
⚙️ Ideal for OEM & Scientific Systems: Perfect for machine vision, fluorescence, spectroscopy, and sensor applications.
🛡️ Highly Reliable Construction: No delamination or coating degradation, unlike thin-film interference filters.

Unit 6, Branksome Business Park,
Bourne Valley Rd, Poole BH12 1DW

+44 (0) 1202 767476
info@globalopticsuk.com
www.globalopticsuk.com

GLOBAL OPTICS

🛠️ Applications of SCHOTT Colour Glass Filters

🔬 Spectroscopy & Analytical Instruments: Used for shaping excitation/emission bands in fluorescence, photometry, and UV-VIS-NIR analysis.

📸 Imaging & Machine Vision: Enhances contrast, suppresses unwanted wavelengths, and improves sensor performance in industrial vision systems.

🔦 Laser & Illumination Systems: Suitable for beam conditioning, wavelength selection, and light-source filtering across UV, visible, and NIR.

🧪 Life-Science & Medical Devices: Ideal for fluorescence microscopy, diagnostics equipment, and bio-analytical instrumentation.

⚙️ Optoelectronic Modules: Used in sensors, photodiodes, detectors, and optical encoders for precise spectral control.

🎥 Photography & Cinematography: Corrects colour balance, blocks IR contamination, and improves image fidelity.

🛡️ Environmental & Industrial Monitoring: Supports gas detection, pollution sensors, and specialised wavelength-selective measurement tools.

📡 Scientific Research & OEM Systems: Reliable, long-term performance for labs and manufacturers requiring stable spectral filtering.

Unit 6, Branksome Business Park,
Bourne Valley Rd, Poole BH12 1DW

+44 (0) 1202 767476
info@globalopticsuk.com
www.globalopticsuk.com

Technical Parameters of SCHOTT Colour Glass Filters

Property	Typical Value
Spectral Types Available	Long-pass, short-pass, bandpass, UV-blocking, IR-cut, heat-absorbing, neutral density
Transmission Range	UV–NIR (depending on glass type), typically 250 nm – 2500 nm
Refractive Index	~1.5 – 1.9 (varies by filter glass series)
Optical Density (OD)	OD1 – OD6+ depending on filter type and thickness
Thermal Stability	Excellent; minimal spectral shift under temperature cycling
Environmental Resistance	High resistance to humidity, abrasion, and long-term UV exposure
Chemical Durability	Good resistance to solvents, cleaning agents, and laboratory handling
Applications	Imaging systems, fluorescence, photometry, machine vision, spectroscopy, laser diagnostics, medical devices, optical instrumentation

SCHOTT colour glass filters provide precise, stable spectral filtering across the UV, visible, and NIR ranges. Their defined transmission curves make them ideal for spectroscopy, machine vision, fluorescence, photometry, and laser/illumination control.

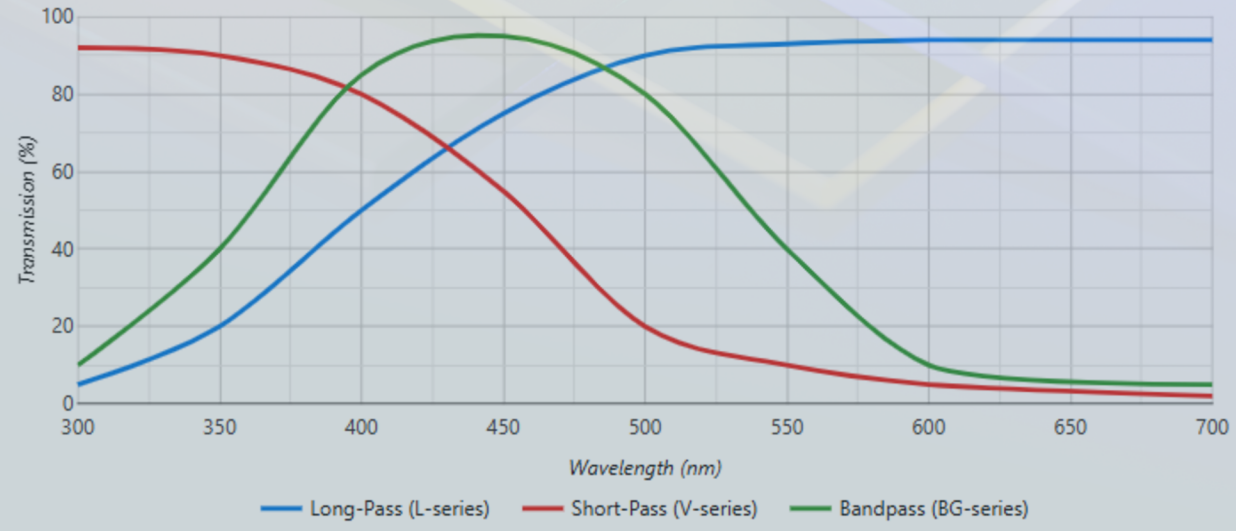
Available in long-pass, short-pass, band-pass, heat-absorbing, and neutral-density types, SCHOTT filters are non-hygroscopic, durable, and thermally stable. They are widely used for sensor windows, filter plates, and custom optical assemblies, offering reliable wavelength selectivity for scientific and industrial optical systems.

Unit 6, Branksome Business Park,
Bourne Valley Rd, Poole BH12 1DW

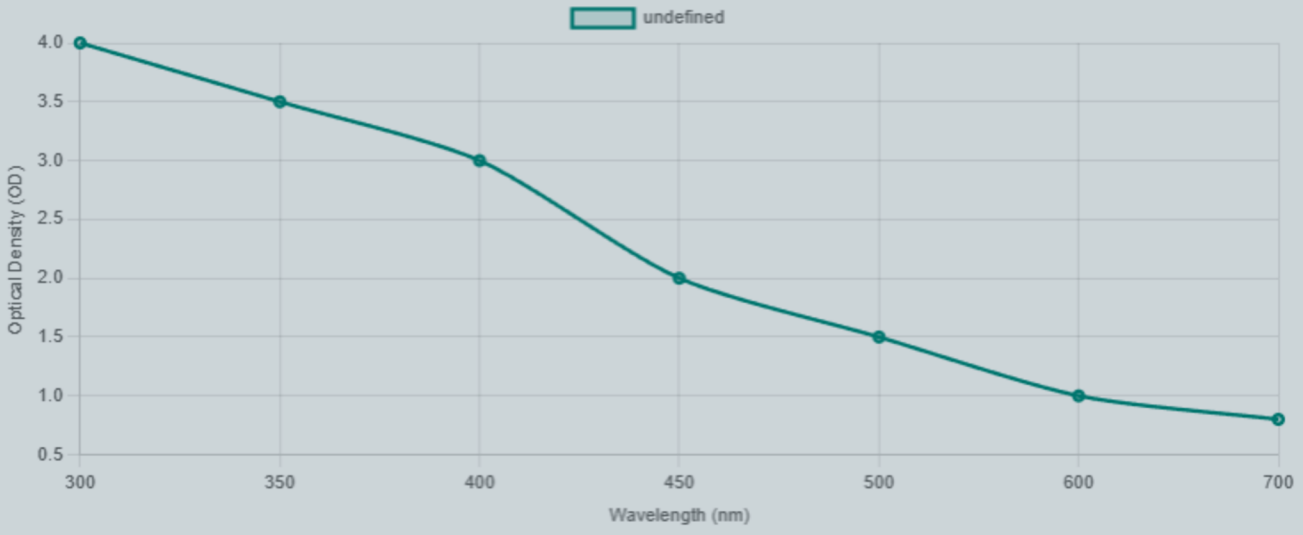
+44 (0) 1202 767476
info@globalopticsuk.com
www.globalopticsuk.com

SCHOTT Colour Glass Filters – Optical Performance Graphs

Typical Transmission Curves

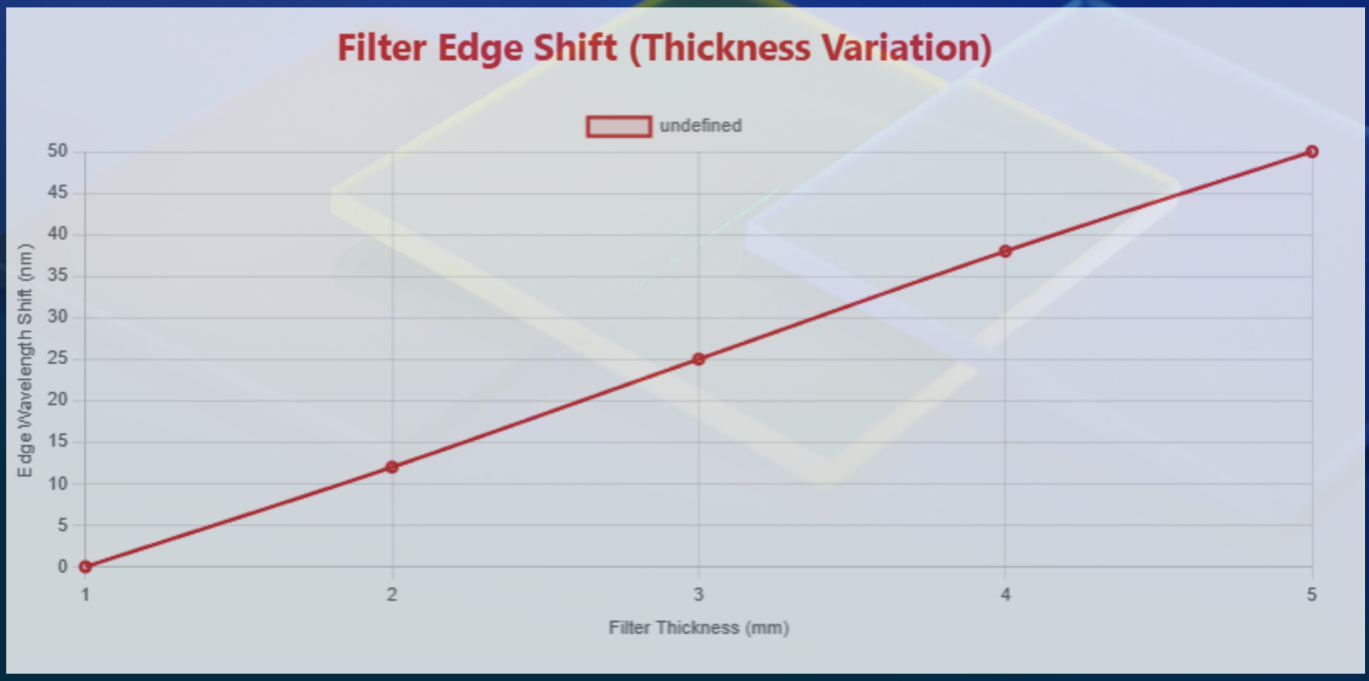


Optical Density vs Wavelength



Unit 6, Branksome Business Park,
Bourne Valley Rd, Poole BH12 1DW

+44 (0) 1202 767476
info@globalopticsuk.com
www.globalopticsuk.com



SCHOTT Colour Glass Filters offer precise and stable wavelength control across the UV, visible, and NIR spectrum. They provide defined transmission and blocking characteristics, making them ideal for imaging, spectroscopy, fluorescence, machine vision, and sensor applications.

Highly durable and thermally stable, SCHOTT filter glass delivers long-term spectral consistency, excellent chemical resistance, and reliable performance in laboratory, medical, and industrial environments. Available in many filter types, they can be fabricated into windows, plates, and custom optical components for UV–VIS–NIR systems requiring accurate and durable spectral filtering.

Unit 6, Branksome Business Park,
Bourne Valley Rd, Poole BH12 1DW

+44 (0) 1202 767476
info@globalopticsuk.com
www.globalopticsuk.com

FAQ

Q: What are SCHOTT Colour Glass Filters used for?
A: SCHOTT colour glass filters are widely used in imaging, spectroscopy, machine vision, photometry, fluorescence, laser diagnostics, and scientific instrumentation. They provide stable wavelength control across the UV, visible, and NIR by using absorptive filtering rather than thin-film coatings.

Q: How do SCHOTT filters differ from coated interference filters?
A: Unlike interference filters, SCHOTT filters rely on intrinsic material absorption, meaning there are no delicate coatings that can peel or shift. This makes them extremely durable, environmentally stable, and resistant to humidity, temperature changes, and UV exposure.

Q: What types of SCHOTT filter glasses are available?
A: SCHOTT offers a comprehensive range including long-pass, short-pass, bandpass, heat-absorbing, neutral-density, conversion filters, and coloured glass for precision wavelength shaping across the spectrum.

Q: Are SCHOTT Colour Glass Filters hygroscopic?
A: No. SCHOTT optical filter glasses are non-hygroscopic and remain stable in humid or outdoor environments, unlike halide crystals such as KBr or NaCl.

Q: Can SCHOTT filters be used with high-power light sources or lasers?
A: Yes. SCHOTT filter glasses offer good thermal resistance, stability under high illumination, and are suitable for many laser, LED, and high-intensity lighting applications. (For extremely high-power lasers, wavelength-specific coated substrates may still be preferred.)

Q: What components can be made from SCHOTT filter glass?
A: SCHOTT materials can be manufactured into windows, plates, prisms, apertures, filters for cameras, optical assemblies, and custom-shaped components for imaging systems and analytical tools.

Q: How durable are SCHOTT Colour Glass Filters?
A: They are highly durable, offering strong resistance to scratching, UV degradation, chemical exposure, and temperature cycling. This makes them ideal for industrial, medical, and outdoor optical systems.

Unit 6, Branksome Business Park,
Bourne Valley Rd, Poole BH12 1DW

+44 (0) 1202 767476
info@globalopticsuk.com
www.globalopticsuk.com