

# NIR Cutoff Filters / Blue Filter Glass

A product family with two groups that have extraordinary properties



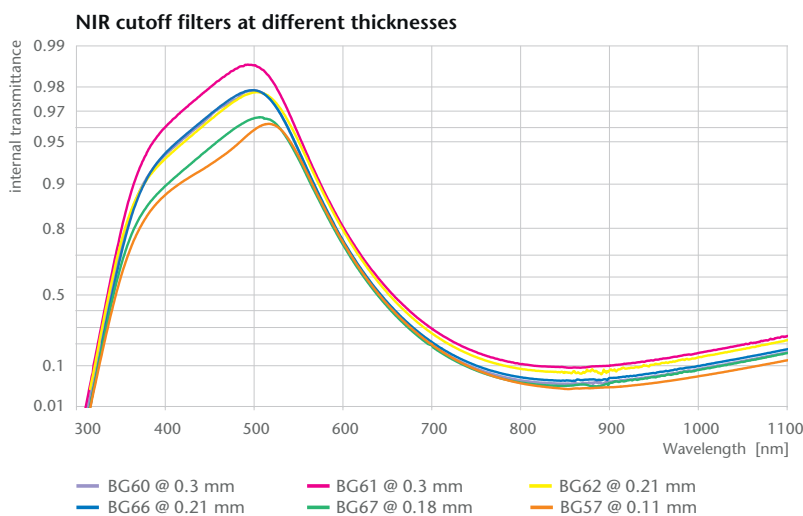
Used in numerous applications, NIR cutoff filters can be found just about everywhere we look in our modern lives. They are equipped to image sensors so that natural colors are produced, and they make digital cameras respond to light as our eyes do. Special NIR cutoff filters are required for any display or operation control when viewed at using a night vision system (NVIS compatible equipment), which are becoming more and more commonly used by police and rescue forces. Depending on the main application, our optical filter glass types are grouped into glasses for **mobile applications** and glasses for industry applications with **high steepness** of the NIR cutoff, respectively.

## 1. Group – Mobile applications

**BG60, BG61, BG62, BG66** NEW , **BG67, BG57**

Designed to perform in difficult environments

SCHOTT's new IR filter glasses have been designed to perform in difficult environments. Equipped with a specified coating, these filters remain completely transparent for more than 1000 hours without any surface corrosion and deliver extraordinary image quality.



|                   |                 | BG60     | BG61     | BG62      | BG66      | BG67       | BG57      |
|-------------------|-----------------|----------|----------|-----------|-----------|------------|-----------|
| refractive index  | $n_e$           | 1.5399   | 1.5370   | 1.5417    | 1.5430    | 1.5427     | 1.5547    |
|                   | $n_d$           | 1.5379   | 1.5350   | 1.5397    | 1.5388    | 1.5405     | 1.5523    |
| cutoff wavelength | $\lambda_{0.5}$ | 633 nm   | 648 nm   | 644 nm    | 635 nm    | 632 nm     | 634 nm    |
| at thickness      |                 | @ 0.3 mm | @ 0.3 mm | @ 0.21 mm | @ 0.21 mm | @ 0.175 mm | @ 0.11 mm |



### Advantages

- Repeatable optical performance due to mass production
- Excellent inner quality, e.g. low striae
- Allows true color imaging
- High NIR absorption at smaller thickness

### Applications

- Medical
- Imaging
- Surveillance
- NVIS (night vision) compatible display
- Industrial applications

### Forms of Supply

- Matt plates
- Polished filters
- Additional coating, framing and assembly available

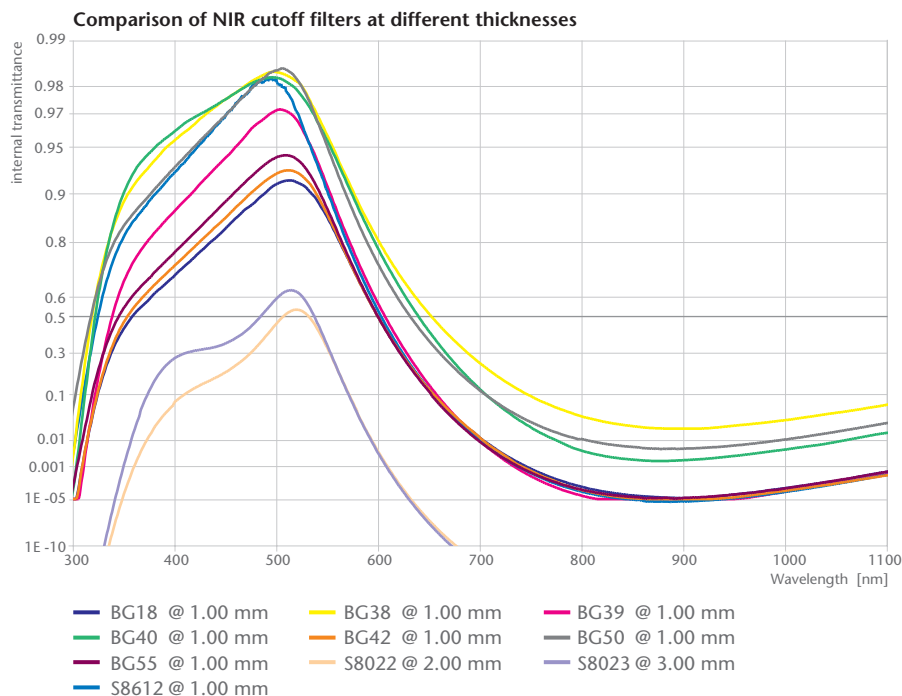
**SCHOTT**  
glass made of ideas

## 2. Group – High steepness of NIR cutoff

### BG18, BG38 – BG42, BG50, BG55, S8022, S8023, S8612

Designed to perform for high-precision optical applications

For decades, these glasses have been popular because of the excellent optical properties they provide. These optical properties include high transmission in addition to high blocking with a very narrow transition range. Furthermore, these glasses are ideal bandpass filters for visual areas when high absorption in the near infrared (NIR) wavelength range is required. The slope of the IR edge is exceptional, and guarantees a sharp distinction between visible light and NIR radiation.



|                                   | BG18   | BG38   | BG39   | BG40   | BG42   | BG50   | BG55   | S8022  | S8023  | S8612  |
|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cutoff wavelength $\lambda_{0.5}$ | 595 nm | 646 nm | 603 nm | 635 nm | 595 nm | 626 nm | 596 nm | 533 nm | 565 nm | 599 nm |
| at thickness                      | @ 1 mm |        |        |        |        |        |        |        |        |        |



#### Advantages

- Extraordinarily high transmittance in the visible range
- High NIR absorption
- Excellent inner quality, e.g. low striae
- Allows true color imaging

#### Applications

- Medical
- Imaging
- Surveillance
- NVIS (night vision)
- Industrial applications

#### Forms of Supply

- Polished filters
- Additional coating, framing and assembly available

Advanced Optics  
 SCHOTT North America, Inc.  
 400 York Avenue  
 Duryea, PA 18642  
 USA  
 Phone +1 570/457-7485  
 Fax +1 570/457-7330  
 info.optics@us.schott.com

[www.us.schott.com/advanced\\_optics](http://www.us.schott.com/advanced_optics)

**SCHOTT**  
 glass made of ideas