

Press Release

Schneider-Kreuznach SWIR Filters: Making the Invisible Visible for more precise Material Analysis

Bad Kreuznach, September 20, 2024 - The latest generation of SWIR filters from Schneider-Kreuznach opens up completely new possibilities for industry and science. These specially developed filters transmit small band short-wave infrared light and blocks unwanted environmental light, revealing details that otherwise remain unseen. They are ideal for detecting hidden defects and optimizing material analysis.

Schneider-Kreuznach's SWIR (Short-Wave Infrared) filters, with their narrow bandwidth and steep edges, transmit only this spectral range required for high-precision data acquisition and the revelation of invisible details. This technology is indispensable in quality control, image processing and numerous other applications - from spectroscopy and medical imaging to art restoration.

A look behind the scenes - SWIR filters in use

- In quality control, they help detect defects and contaminants that are invisible to the human eye.
- In spectroscopy, they enable the precise determination of the chemical composition of materials.
- In medical imaging, they help make tissue structures visible.
- In art restoration, they are used to reveal hidden layers in paintings.

Without this technology, for example, it would not be possible to detect overpainted scenes in works of art or bruises on fruit. Cavities in medical packaging can also be made visible with SWIR.

Technical Highlights of SWIR Filters

- Average transmission of 80-90%: High light throughput for optimal results.
- Steep edges: Isolate specific wavelengths for maximum precision.
- Wavelength tolerance of +/- 5 nm: Precise and accurate filtering.
- High Optical Density: Effectively blocks unwanted environmental light.

With these technical advantages, Schneider-Kreuznach SWIR filters make a decisive contribution to improving analyses in many industries.

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About the Schneider-Kreuznach Business Unit Industry

Schneider-Kreuznach Industry as a Business Unit of Jos. Schneider Optische Werke GmbH manufactures and markets optical and precision components and assemblies for machine vision and other image processing applications. Our high-quality, robust optical solutions for image processing help system integrators and machine manufacturers improve their image processing systems. In addition to our standard Industrial Lenses and Filters product range Schneider-Kreuznach Industry offers customized solutions for optical components, Lenses, Filters, optical assemblies and systems.

About the Schneider Group:

The Schneider Group is specialised in the development, production and manufacturing of high-performance lenses as well as filter systems for the industrial, film and photo sectors. The main brand "Schneider-Kreuznach" stands for leading technology from Germany for decades. Our applications in industry include optical inspection and 3D measurement. In the film industry, we have won the Scientific and Technical Award (so-called „technology Oscar“) several times with our products, and photographers appreciate our B+W filters.

The Schneider Group includes Jos. Schneider Optische Werke GmbH, founded in Bad Kreuznach in 1913, the subsidiary of the same name in Singapore, and the companies Schneider Optics (New York, Los Angeles), Schneider Optical Technologies (Shenzhen) and Schneider Asia Pacific (Hong Kong). The Schneider Group employs around 330 people worldwide, 300 of them work at the German headquarter.