

# POLARIZING FILTERS & SHEETS



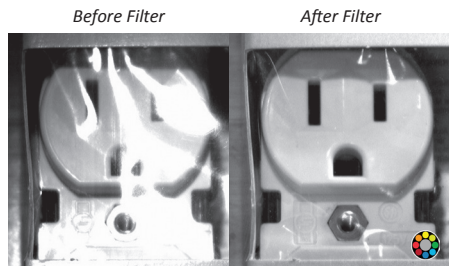
*Polarizing filters reduce unwanted reflection or specular glare and can also be used to check stress patterns in transparent glass and plastic.*

For smooth surfaces or surfaces covered with grease, oil, or liquid. **Achieve the best results by using a polarizing filter over the lens in conjunction with polarizing film or polarizing glass sheet over the light source.** Most polarizers are wavelength range specific; visible or near-infrared polarizing filters or filter sheet materials are offered. Light used to image any nonmetallic surface will, to some degree, produce polarized light in reflection, therefore the use of linear polarizers can often result in appreciable benefit in industrial imaging applications.

## FEATURES

- Filters are equipped with a rotating mount and locking thumb screw
- VIS or Near-IR wavelengths
- Neutral gray, ground and polished laminated glass; excellent flatness, parallelism and surface quality
- Glare can be decreased by rotating the filter mounted on the lens and observing the results.
- Use with Linear & Circular polarizing sheet material

**Useful for:** Reducing glare; contrast enhancement; stress evaluation in molded glass or plastic materials; as a variable Neutral Density filter or light valve when used in pairs



Only a polarizing filter and/or sheet can selectively eliminate glare from an image without manipulating the lighting.

## LINEAR POLARIZERS

Recommended for minimizing glare in any application, passing light through a linear polarizer will also block approximately two-thirds of the incident light.

## CIRCULAR POLARIZERS

A combination of a linear polarizer and a quarter wave retarder, circular polarizers are recommended for use in systems that employ a mirror or beamsplitter in conjunction with a light metering or auto-focus capability.

## VISIBLE POLARIZERS

Visible polarizers decrease glare over the 400-700nm wavelength range.

## NEAR-IR POLARIZERS

Near-infrared linear polarizers work best over the 700-1100nm wavelength range.

**DEFINITION** – Light reflected from a non-metallic surface becomes polarized, sometimes to the degree that a strong glare is created. A linear polarizer rotated to pass only light polarized in the direction perpendicular to the reflected light (the glare) will absorb much of it. Aside from reducing reflections, polarizers help to improve contrast by reducing dynamic range, allow for evaluation of stress in transparent plastic and glass, and can be used in pairs to form a variable neutral density filter.

Part #	Description	Useful Range	Contrast Ratio	Surface Quality
<b>POLARIZING FILTERS</b>				
PR032	Linear Polarizer	400-700nm	800:1	40/20
PC052	Circular Polarizer	400-700nm	700:1	40/20
PI031	NIR/Vis Linear Polarizer, High Extinction	400-2000nm	3000:1	40/20
PI035	NIR/Vis Linear Polarizer, High Transmission	400-2000nm	500:1	40/20
<b>POLARIZING SHEETS</b>				
PS007	High Contrast Linear Polarizer Film .007" thk	400-700nm	800:1	N/A
PS010	High Contrast Linear Polarizer Film .010" thk	400-700nm	800:1	N/A
PS030	Ultra High Contrast Linear Polarizer Film .030" thk	400-700nm	6500:1	N/A
PG120	Ultra High Contrast Glass Linear Polarizer Sheet	400-700nm	6500:1	80/50
PI005	NIR High Contrast Linear Polarizer Film .007" thk	700-1100nm	1000:1	N/A

*\*Due to continuous product improvement, specifications are subject to change without notice.*

## FILTER MOUNT & SIZE OPTIONS

Rotating Threaded Mount sizes from M25.5-M105, Slip Mount, Unmounted

## SHEET SIZE & SHAPE OPTIONS

Sheet material is available in several thicknesses and can be cut, drilled and formed to fit almost any type of lighting equipment. Maximum usable width is 420mm (16.5").

The oleophobic anti-reflection coated glass polarizer sheet has an extended polarization efficiency, is abrasion and solvent resistant and can withstand higher temperatures than typical film. Custom shapes and sizes are available up to 635 x 406mm (25" x 16").

