

Polatechno

Catalogue

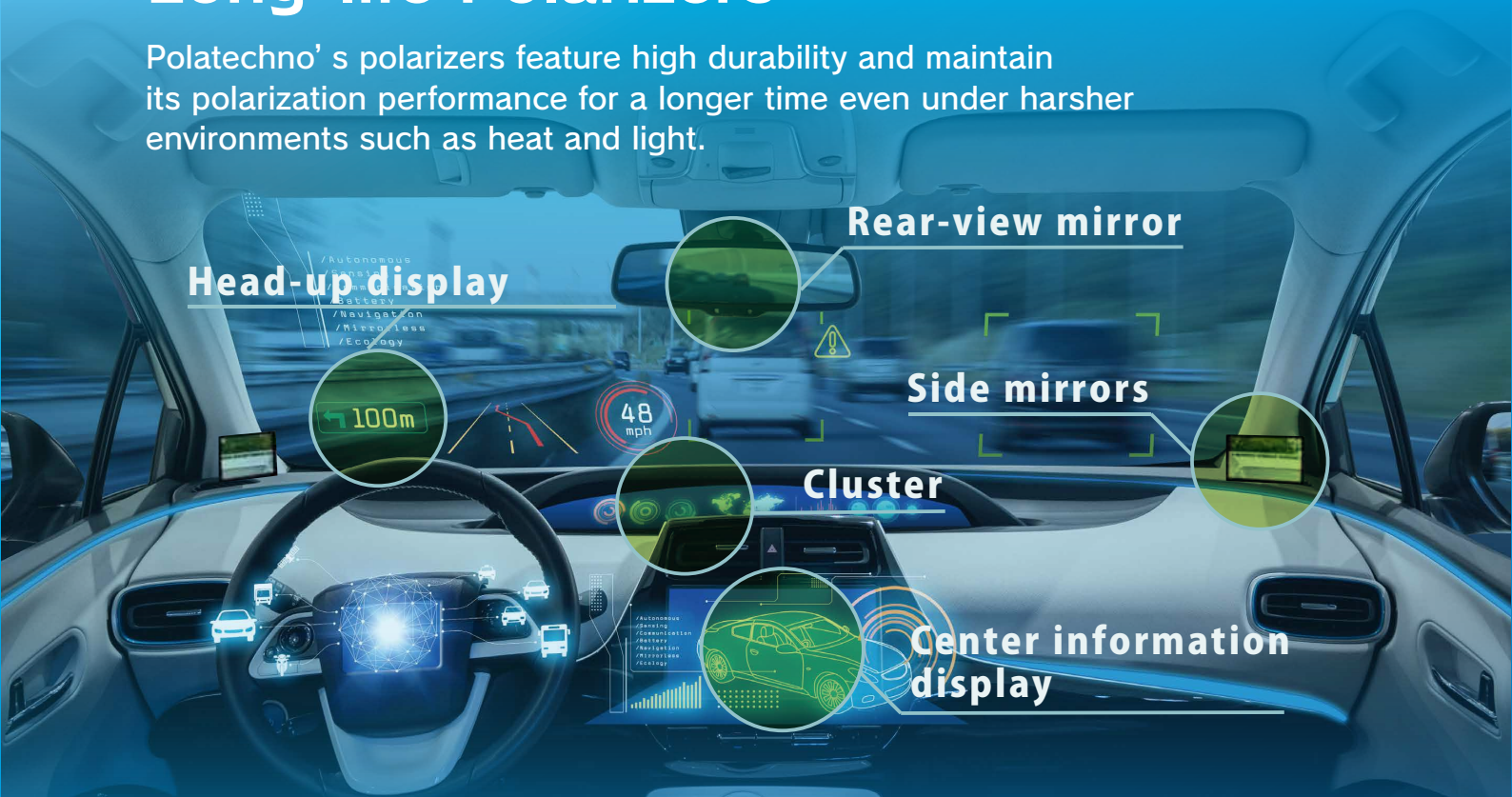
**Ultra
HighDurability
Polarizers**

Global "sukima" ideas



Excellent resistance to heat and light Long-life Polarizers

Polatechno's polarizers feature high durability and maintain its polarization performance for a longer time even under harsher environments such as heat and light.



Autonomous driving (sensors)



Projector

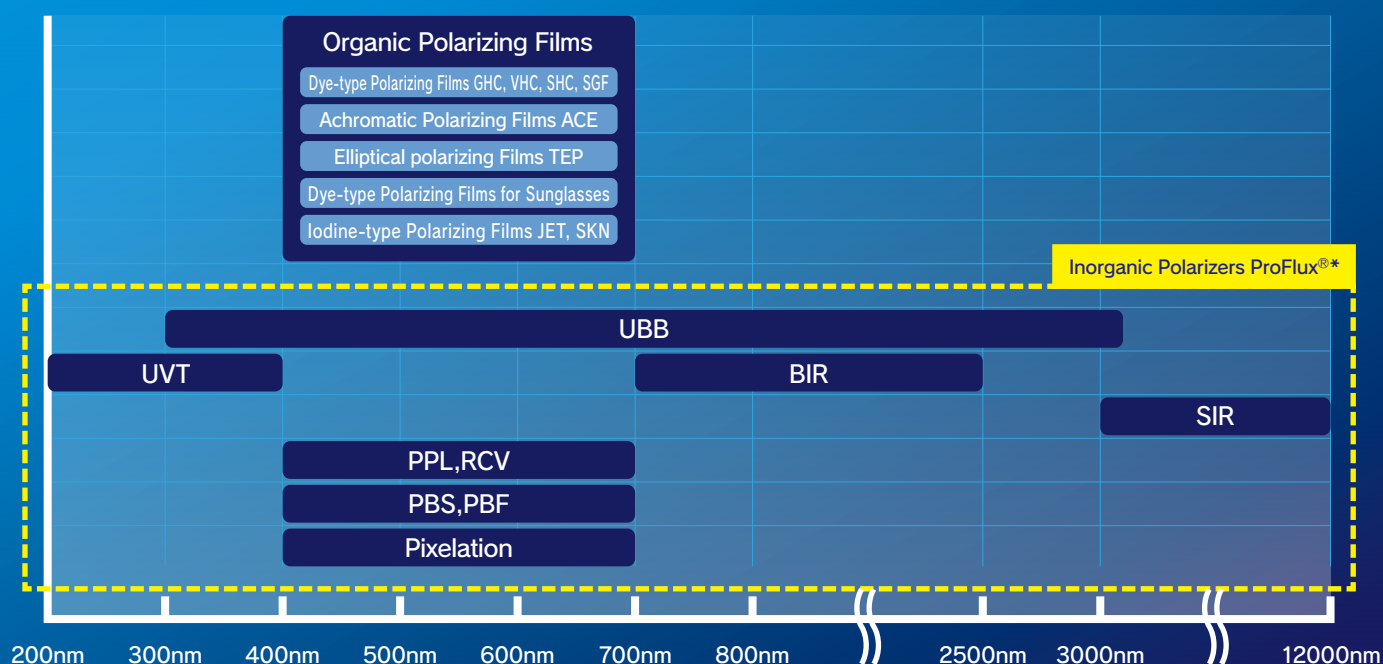


Digital signage



Sunglasses

Corresponding wavelength and product group



Polatechno Products Quick Reference

Organic Polarizing Films

Category	Product Type	Features	Optics Wavelength	Applications	Merits
Dye-type Polarizing Films	GHC	High durability & High contrast Maintains polarization performance for a long time under severe environmental conditions such as heat and light Contrast: 15,000 or more*1	Visible light	In-vehicle display Head-up display Mirror display Electrical power meter Polarizing filter Projector Touch panel	By suppressing browning (polyene *3), the display can be visible for a longer time even in an environment under strong sunlight
	VHC	High durability & High contrast Contrast: 8,000 or more*1	Visible light		Reliable and proven in in-vehicle applications The products have already been used by many customers
	SHC	High durability polarizing films	Visible light		Reliable and proven in in-vehicle applications The products have already been used by many customers
	SGF	Sun guard films with polarization performance	Visible light	Shielding films for head-up display	By dimming sunlight, it decreases heat exposure to display equipment
Achromatic Polarizing Films MUSAISYOKU	ACE	High durability / Achromatic type polarizing films (Paper-white)	Visible light	Outdoor display Digital signage Construction sign Industrial meter Display for disaster	Improving display quality The display can be visible for a longer time even in an environment under sunlight
Additional Functions Optical Compensation Films	Elliptical Polarizing films TEP	Elliptical polarizing films using temperature-matched retardation film Twista™*2	Visible light	In-vehicle display	Possible to compensate the optical performance of STN cells in a wide range of temperatures. The products have already been used for in-vehicle applications by many customers
	PC Retardation	Added optical compensation functions such as anti-reflection, wide viewing angle The retardation value can be adjusted depending on applications	Visible light-Infrared	In-vehicle display Head-up display Mirror display Electrical power meter Polarizing filter Projector Touch panel	Improving display quality
	COP Retardation				
	DPC*2	Wide view films for IPS/FFS mode	Visible light		
Additional Functions Surface Functions	AG	Added surface functions such as anti-reflection, anti-glare, and hard coating		In-vehicle display Head-up display Mirror display Electrical power meter Polarizing filter Projector Touch panel	Protecting the surface from external shocks Reducing reflection of light sources Reducing reflective light
	AR				
	HC				
	LR, others				
Dye-type Polarizing Films for Sunglasses	Brown type	Brown-colored polarizing PVA for sunglasses	Visible light	Sunglasses / Goggles	Available for various colors
	Grey type	Gray-colored polarizing PVA for sunglasses	Visible light	Sunglasses / Goggles	Available for various colors
Additional Functions	HCF	Added mirror functions		Sunglasses / Goggles	Preventing scratches and peeling off Possible to correspond to the reflected colors and reflectance
Iodine-type Polarizing Films	JET	High durability & Super high contrast	Visible light	In-vehicle display	Reliable and proven in consumer applications The products have already been used by many customers
	SKN	Super high contrast	Visible light	Display for consumer products	Reliable and proven in consumer applications The products have already been used by many customers

*1 Numerical values as polarizing films *2 Developed and manufactured by DEJIMA OPTICAL FILMS B.V. *3 Polyvinyl alcohol(PVA) deteriorates and turns brown

Inorganic Polarizers

Category	Product Type	Features	Optics / Wavelength	Applications	Merits
Inorganic Polarizers ProFlux® *4	PPL / RCV	Reflective wire-grid polarizers	Visible light	Projector Optical equipment In-vehicle display	For optical materials that a higher durability is required, it is possible to provide the polarizers as chips, with cover glasses, or mounted ones on any parts so on.
	PBS / PBF	Wire-grid polarizers for beam splitters	Visible light		
	ABS	Absorptive wire-grid polarizers	Visible light		
	UVT	Wire-grid polarizers for ultraviolet	Ultraviolet	Photo-alignment	
	BIR	Wire-grid polarizers for near-infrared	Near-infrared	Sensor	
	SIR	Wire-grid polarizers for mid-infrared	3~5μm 8~12μm	Sensor	
	UBB	Broadband type wire-grid polarizers	Ultraviolet - Visible light - Infrared	Photo-alignment Sensor	
	Pixelation	Pixelated wire-grid polarizers	Visible light	Special camera	

*4 Developed and manufactured by MOXTEK, Inc.

Organic Polarizing Films

Polatechno's Dye-type Polarizing Films

Dye-type polarizing films feature excellent resistance to heat and light with its high performance dyes and orientation technology.

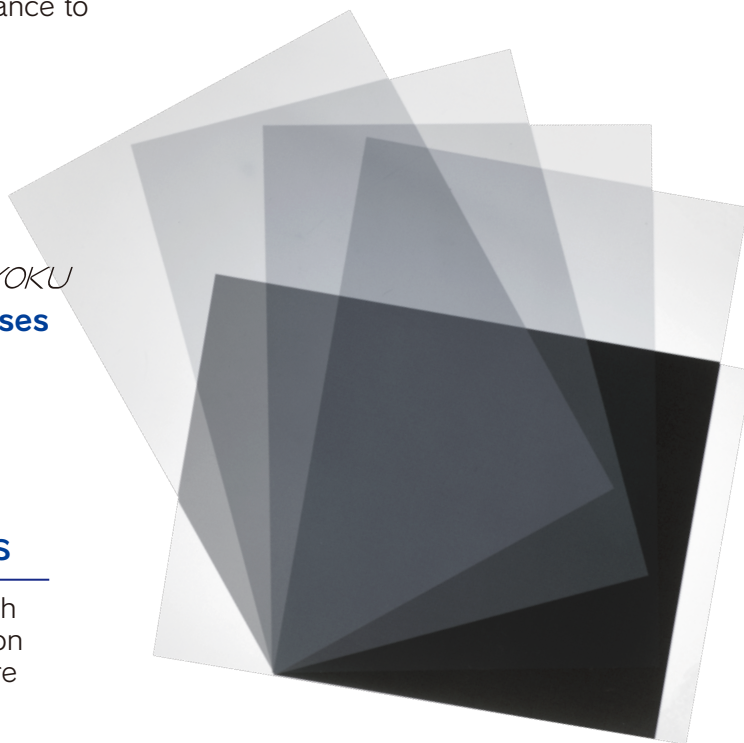
Product Lineup

- Dye-type Polarizing Films
- Achromatic Polarizing Films *MUSAISYOKU*
- Dye-type Polarizing Films for Sunglasses
- Iodine-type Polarizing Films

Polarization performance that does not deteriorate even in harsher environmental conditions

Dye-type polarizing films suppress browning with polyene* resistance, which maintains polarization performance for a longer time even under severe environmental changes.

*Polyene: Discoloration of polyvinyl alcohol (PVA).



Comparison between conventional polarizing films and dye-type ones after heat resistance tests

Conventional polarizing films		Dye-type polarizing films	
Initial status			Initial status
↓			
After 1000 hours			After 1000 hours
The transmittance of conventional polarizing films was significantly reduced.		Dye-type polarizing films did not turn brown and maintained its polarization performance.	

■ Test conditions: 115°C × 1000 hours

■ Display: A conventional polarizing film was used in the left side screen, and a dye-type polarizing film was used in the right side.

Inorganic Polarizers ProFlux®*

Inorganic polarizer ProFlux®* is a wire-grid polarizer. The polarizer is made of inorganic materials, and it features the highest durability and excellent polarization performances. We have a wide range of product lineups covering from ultraviolet to infrared.

Wavelength and Product Lineup

■ UV

Polarizers for UV range. UVT series is ideal for photo-alignment, security, and inspection use.

■ Visible range

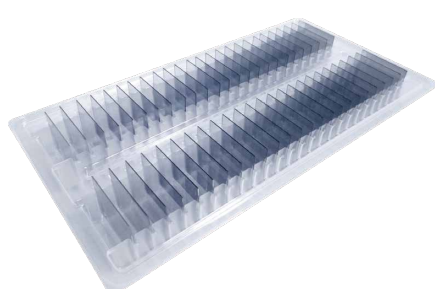
Polarizers for visible light range. PPL series is for general applications, and RCV series is applicable for high contrast products such as a microscope, a spectrophotometer, imaging, and in-vehicle use so on.

■ IR

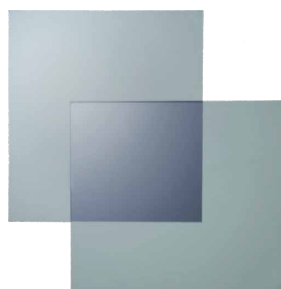
Polarizers for IR light. BIR is applicable for 700~2500nm, and SIR is applicable for 3-5 μ m and 8-12 μ m.

■ Beam splitter

PBS and PBF series are used for polarizing beam splitters. They are designed to have its optimum characteristics at 45° incidence. PBS is for general applications, and PBF has the better flatness to make it ideal for high-definition images.



Inorganic polarizer ProFlux®* in a tray



Inorganic polarizer ProFlux®* (square)



Inorganic polarizer ProFlux®* (round)

* Developed and manufactured by MOXTEK, Inc.

Various Additional Functions / Optical Compensation & Surface Functions

The optical characteristics can be compensated with retardation films, and it is also possible to add surface functions such as anti-reflection and anti-glare.

Products Form

Polatechno products can be provided in various types that are easy to use. Please let us know if you have any request.

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