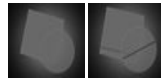


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## 50 x 50mm, $\lambda/4$ Retarder Film (WP140HE)



Retarder Film with protective film removed



Stock #14-723 **20+ In Stock**

⊖ 1 ⊕ €21<sup>25</sup>

**ADD TO CART**

Volume Pricing	
Qty 1-10	€21,25 each
Qty 11+	€17,90 each
Need More?	<a href="#">Request Quote</a>

ⓘ Prices shown are exclusive of VAT/local taxes

### Product Downloads

### General

Retarder Film

Type:

Note:  
Fast axis is indicated by a black stripe on the protective film. This film should be removed before use.

## Physical & Mechanical Properties

Length (mm):

50.00

Dimensions (mm):

50.0 x 50.0

Thickness (mm):

0.06 ±0.003

Dimensional Tolerance (mm):

+0.0/-0.5

Construction:

Polarizing Film

Width (mm):

50.00

## Optical Properties

Design Wavelength DWL (nm):

588

Substrate:

[Polymer Film WP140HE](#)

Retardance:

$\lambda/4$

Transmission (%):

>89

Phase Shift (°):

90.00

Wavelength Range (nm):

400 - 700

Index of Refraction ( $n_d$ ):

1.58

Retardation (nm):

147 ±4

## Material Properties

Haze (%):

<1

## Environmental & Durability Factors

Operating Temperature (°C):

-40 to +120

Heat Resistance (°C x Hours):

80 x 1000

## Regulatory Compliance

RoHS 2015:

[Compliant](#)

Certificate of Conformance:

[View](#)

Reach 235:

[Compliant](#)

## Product Details

- Highly Durable Polymer Sheets
- $\lambda/4$  (WP140HE) Achromatic Retarder with Greater than 90% Transmission from 450-700nm
- $\lambda/4$  (WP140HE),  $\lambda/2$  (WP280), and  $1\lambda$  (WP560) Retarder Films Available

Polymer Retarder Film is an extremely durable, birefringent polymer sheet that has been designed to modify the polarization state of transmitted light. The highly transparent, achromatic  $\lambda/4$  (WP140HE) and  $\lambda/2$  (WP280) Polymer Retarder Films consist of a single layer, modified polycarbonate sheet that acts as an achromatic retarder, and is optically and mechanically sound up to 90°C or 80°C respectively. The  $1\lambda$  (WP560) Polymer Retarder Film consists of two  $\lambda/2$  films that have been laminated together to create retardation values of 560nm. These films are ideal for use in a variety of coherent and polarized light applications, including circular polarizers, LCDs, and fiber optics.

### Immediate Custom Quotes Available

If you have a need for any round, square, or rectangular size of a Polymer Retarder Film in dimensions between 3mm and 600mm, please visit our [Polarizing Film Tool](#). We'll provide an immediate quote, and can deliver the part to your requested size in approximately 3 weeks. A full list of standard manufacturing tolerances and restrictions are listed. For fully customized polymer polarizers to your requirements, visit our [Customized Polymer Polarizers Capabilities](#) page.

## Technical Information

**Polymer Retarder Film**



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