

## Retarders

Retarders (or wave plates) are polarising optics use to alter the polarised state of light passing through them. Retarders are most commonly available in 1/4 wave and 1/2 wave types, both of which exhibit different optical properties to an extent dependant on the quality of the optic. Retarders are designed for specific operating wavelengths.



Half-wave plates simply shifts the polarisation of a linearly polarised beam while quarter-wave plates convert linearly polarised light into circularly polarised light and vice versa.

These retarders are available as either low order or zero order types, with zero order types offering superior angular field of view and less variance of retardance with viewing angle with increased cost. Knight Optical offer custom retarders, supplied mounted or unmounted, manufactured to customer's specifications.

## Custom capabilities

<b>Diameter</b>	12.5mm to 50mm
<b>Common types</b>	1/2 wave or 1/4 wave
<b>Design wavelength</b>	Zero Order, Low Order or Achromatic 257nm to 1550nm
<b>Mounting options</b>	Mounted or unmounted
<b>Retardance tolerance</b>	< 1/300 waves
<b>Beam deviation</b>	< 10 arcseconds
<b>Surface quality</b>	< 10:5

## Notes

All products are tested in our state of the art metrology laboratory by our highly trained technicians to ensure compliance with the specification. Parts are then sent to our QA team to be cleaned and checked for surface imperfections before dispatch.

Please contact our technical sales team on (+44) 1622 849 444 to discuss your custom retarder requirements and discover how Knight Optical can help improve your supply chain experience. Alternatively, email us your requirements by clicking on the links below.