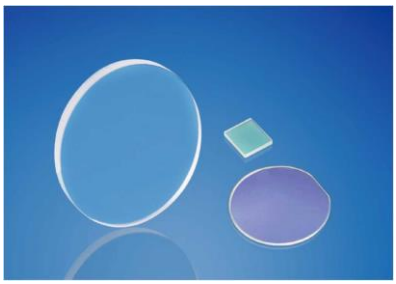
Waveplate



Waveplate (Waveplate), also called phase retarder, is a kind of birefringent material (mainly birefringent crystals such as quartz, mica, calcite, etc.), which generates optical path difference (or Optical components that change the polarization state of light. When the incident light passes through different types of parametric wave plates, the outgoing light is different, and can be linearly polarized, elliptically polarized, circularly polarized, etc.

Shanghai OPTEK can prepare various high-precision wave plates according to customer's customized requirements, including glued zero-order 1/2 delay wave plates, glued zero-order 1/4 retardation wave plates, multi-level 1/2 delay wave plates, multi-level Level 1/4 delay wave plate and achromatic wave plate, etc.

Product parameters:

Classification	Zero order wave plate	multi-stage wave plate	Achromatic wave plate
Material	Quartz , MgF2 _	Quartz , MgF2 _	Quartz , MgF2 _
Dimensional tolerance	+0.0 / -0.2mm	+0.0 / -0.2mm	+0.0 / -0.2mm
smoothness	20/10	40/20, 20/10	40/20
wavefront distortion	λ/ 10 @ 632.8nm	λ/ 10 @ 632.8nm	λ/ 4 @ 632.8nm
Parallelism	≤10″	≤10″	≤10″
Delay accuracy	λ /60- λ /200 (λ <400nm) λ /200- λ /400 (400nm< λ <700nm) λ /400- λ /600 (λ >700nm)	＜λ/300	＜λ/50 --- λ/2 achromatic wave plate ＜λ/100 --- λ/4 achromatic wave plate
standard wavelength	266, 355, 532, 633, 780, 808, 850, 980, 1064, 1310, 1480, 1550nm	266, 355, 532, 633, 780, 808, 850, 980, 1064, 1310, 1480, 1550nm	4 00 - 700nm _ 700-1000 nm 1 1 00-1650 nm
coating	AR, R＜0.25% @design wavelength	AR, R＜0.25% @design wavelength	AR, R＜0.5% @design wavelength
damage threshold	2MW/cm 2 , 2J/cm 2 , 10ns	2MW/cm 2 , 2J/cm 2 , 10ns	500W/cm 2 , 4J/cm 2 , 20ns