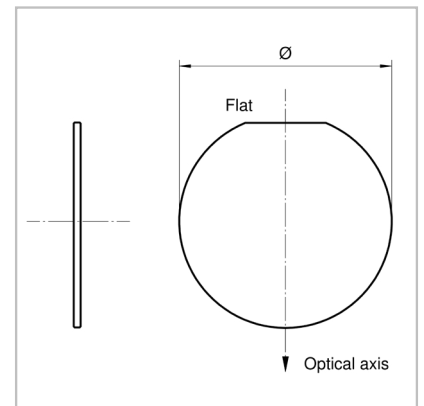


Dual/Harmonic Waveplates

Dual/harmonic waveplates are designed so that a defined phase shift can be reached for two wavelengths. The retardation can be selected differently for each single wavelength. In this way, the wavelength $\lambda = 1064$ nm, for example, can go through a phase shift of λ while the second wavelength, $\lambda = 532$ nm, experiences a phase shift of $\lambda/2$.

The retardation plates otherwise correspond to multiple order plates.



Nomenclature

QWPD	-532	-2	-1064	-4	-05	DAR/DAR
Product Code (Dual Waveplate)	Wavelength in nm	Retardation 1: λ 2: $\lambda/2$ 4: $\lambda/4$	Wavelength in nm	Retardation 1: λ 2: $\lambda/2$ 4: $\lambda/4$	Diameter in inches x 10	Coating Specification

Specifications

Spectral bandwidth	Typ. $\lambda \pm 0.5$ %
Typical range of thickness	0.3 mm to 3.0 mm
Wavefront error	$\lambda/10$ at 632.8 nm (transmission)
Retardation tolerance*)	$\lambda/100$ to $\lambda/500$
Surface quality	5/4 x 0.025 for 1.0" substrates according to ISO 10110 10-5 according to MIL-O-1380A
Parallelism	Wedge < 0.5 arcsec
Damage threshold	LDT > 10 J/cm ² (10 ns; 1064 nm)
Clear aperture	85 % of diameter
Dimensions	12.7; 15.0; 20.0; 25.4; 30.0; 38.1; 50.8 mm

*) Dual waveplates are designed to meet standard specifications. In the event the two requested wavelengths and retardations do not allow for design to meet the standard retardation tolerances. The customer will be requested to optimize for one wavelength and retardation.

Dual/Harmonic waveplates are also available with reduced specifications.