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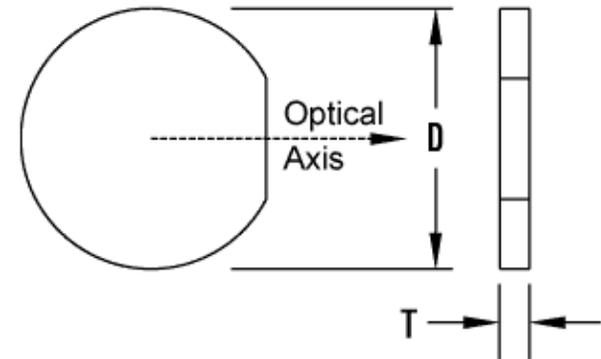
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## Waveplates » Multi-Order Waveplates

Waveplates are used in the synthesis and analysis of polarized light. Quarter Waveplates transform linearly polarized light into circularly polarized light, and vice-versa. Half Waveplates rotate the plane of polarization of linearly polarized light through any angle. They also convert left circularly polarized light into right circularly polarized light, and vice-versa.

Multi-Order Waveplates are made from a single Crystalline Quartz or Sapphire plate.

Retardation varies quickly with wavelength, thus they are generally useful only at their design wavelength. Retardation is also a function of plate thickness and is slightly temperature-dependent due to thermal expansion.



### RMI Standard Specifications

<b>Material:</b>	Crystalline Quartz
<b>Angle of Incidence:</b>	0°
<b>Construction:</b>	Single multiple order plate
<b>Transmitted Wavefront:</b>	$\lambda/10$ at 633nm

<b>Surface Quality:</b>	10 – 5, both surfaces
<b>Diameter Tolerance:</b>	+ 0.000, – 0.25mm
<b>Thickness:</b>	2.0 mm (nominal)
<b>Wedge:</b>	≤ 0.5 arc seconds
<b>Bevels:</b>	Minimum safety bevel
<b>Clear Aperture:</b>	Central 85% of diameter
<b>Anti-Reflection Coating:</b>	R ≤ 0.25% per surface
<b>Retardation Tolerance:</b>	$\lambda/100 - \lambda/600$

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The cornerstone of the RMI service philosophy is a collaborative approach with our customers to solve even the most technically challenging requirements. Working with clients in the early stages of development, we transition prototype concepts to efficient and manufacturable solutions.



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