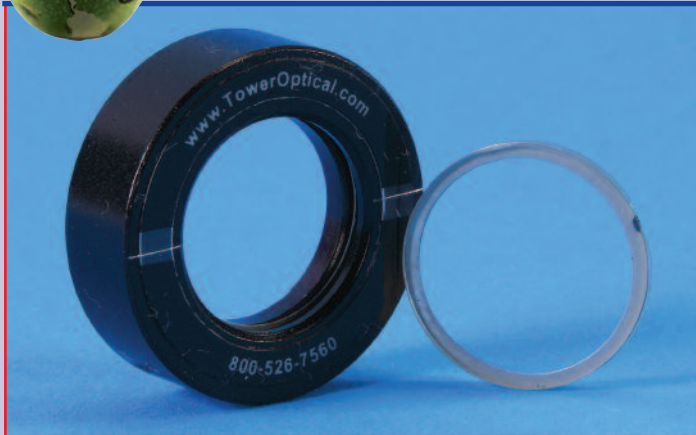


**NEW**



# High Laser Damage (HLD) Zero Order Waveplates – 17.5 mm



- Clear aperture 85% OD
- 17.5 mm unmounted diameter
- 1" (25.4 mm) mounted diameter
- Wide range of wavelengths
- 1/2 and 1/4 wave retardation
- Waveplates are AR coated
- Very high laser quality
- High performance specifications
- High Laser Damage Coating

**Tower's 17.5 mm HLD zero order waveplates** provide users with a high performance crystal quartz retarder with a clear aperture of 15 mm. These waveplates are air spaced, having a stainless steel spacer between two crystal quartz plates that form the zero order capability.

Zero order waveplates are far less sensitive to temperature variations than multiple orders. Air spaced waveplates have higher thermal stability and power handling capability than contacted or cemented. There are no failures as occur with contacted waveplates coming apart. Angular alignment of the waveplates is also more accurate. Tower Optical waveplates are made from laser quality crystal quartz. Each HLD plate is AR coated on both sides to exhibit High Laser Damage Threshold with

retardations that are 1/2 or 1/4 wave. The waveplates are offered either unmounted with a diameter of 17.5 mm or mounted in a 25.4 mm anodized aluminum mounting ring with a 15 mm clear aperture.

The standard wavelengths available are shown in the chart below. As a special feature, Tower offers the ability to supply these zero order waveplates at wavelengths within a range of 10–20 nm from any of those listed on the chart. Other wavelengths are available on a custom order basis.

## Waveplate Specifications

- Material:** crystal quartz – laser quality
- Waveplate thickness range:** 0.3 to 1.3 mm
- Wavefront distortion:**  $\lambda/10$  @ 632.8 nm
- Surface quality:** 10-5 Scratch-Dig
- Parallelism (wedge):** 0.5 arc seconds
- Wavelength range:** per table to the right
- Retardation tolerance:**  $\pm 0.005$  waves @ 632.8 nm
- Coating:** anti reflective,  $R < 0.25\%$  per surface
- Damage threshold:** 1 MW/cm<sup>2</sup> – CW, 20 J/cm<sup>2</sup>@10 ns
- Diameter:** 17.5 mm, +0.0/-0.25 mm unmounted;  
25.4 mm, +0.00/-0.25 mm mounted
- Mounted thickness:** 7.8, +0.00/-0.25 mm

## Standard Wavelengths

355	408	532	800	1030	1064
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*Custom Wavelengths are available for HDL Waveplates*

## Ordering Information

### Unmounted

Z-17.5-A-R-N-WL-H .....\$435

### Mounted in a 25.4 mm ring

Z-17.5-A-R-B-WL-H .....\$465

R = Retardation: .500 or .250, WL = Wavelength

See Page 17 for Waveplate Ordering Information



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Cage Code: 1N2U3

SDVOSB

ITAR Compliant

ISO 9001: 2015 Certified

