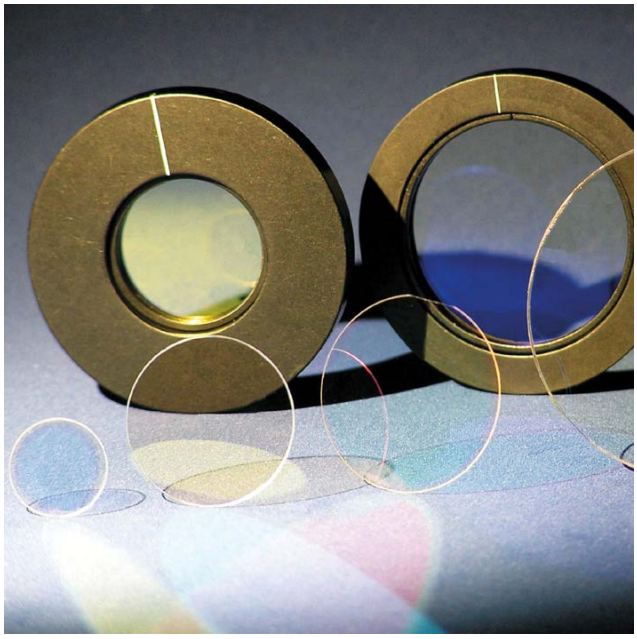
Achromatic Waveplates

Retardation plates – also known as "waveplates" – are optical elements that are generally manufactured from birefringent materials and produce a phase shift in the transmitted light. Achromatic waveplates feature a constant phase shift across a very large wavelength range. This is achieved by combining different birefringent materials. Our design consists of very thin plates and materials with low dispersion. This results in a low group velocity dispersion which is crucial for applications with fs lasers. Moreover, the wide and flat curve of the phase shift is ideal for applications with broadband laser sources. We currently offer these waveplates for the three wavelength ranges from 450 - 650 nm, 550 - 750 nm, and 650 - 1100 nm. Customer-specific wavelength ranges are available upon request.



SPECIFICATIONS

- Substrate material: Synthetic crystalline quartz/magnesium fluoride
- Transmitted wavefront: λ/4 @ 632.8 nm across the free aperture
- Surface quality: 40-20 scratch-dig
- Retardation tolerance: Better than λ/100
- All waveplates are supplied with an air gap and mounted on a standard basis

NOMENCLATURE

ACWP	450 - 650	06	2	AR/AR
Product code (achromatic waveplate)	Wavelength range in nm	Diameter code in inches x 10	Retardation 2: λ/2 4: λ/4	AR coating (optional)

STANDARD SIZES AND FREE APERTURE

Diameter code in inches x 10	Diameter in mm	Free aperture in mm	Mount diameter and length in mm
06	15.0	12.7	25.4 x 6.35
10	25.4	21.6	30.0 x 6.35

Germany and other countries: LASER COMPONENTS GmbH, Phone: +49 8142 2864 0, Fax: +49 8142 2864 11, info@lasercomponents.com
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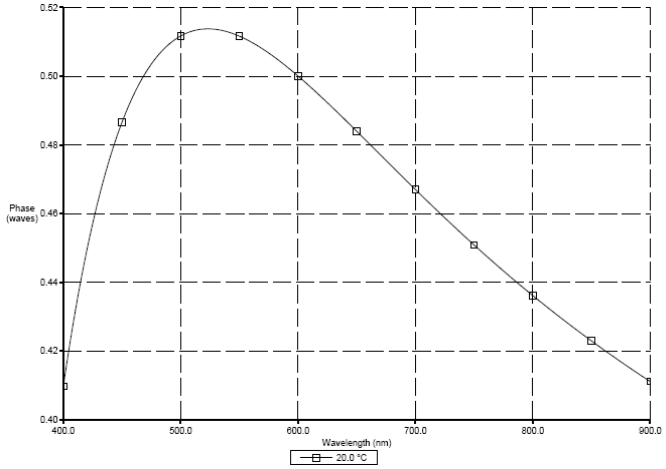
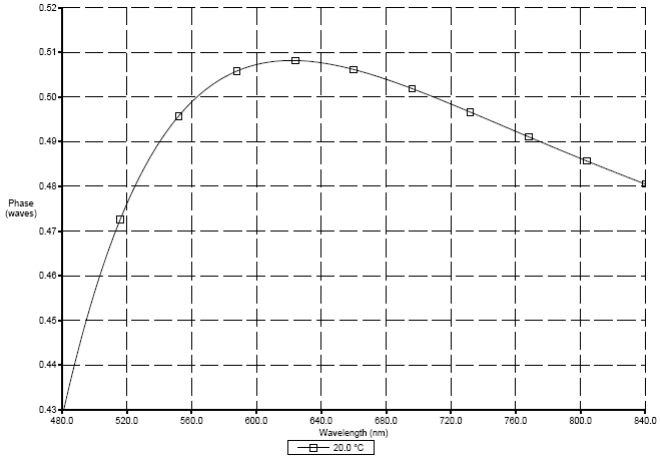
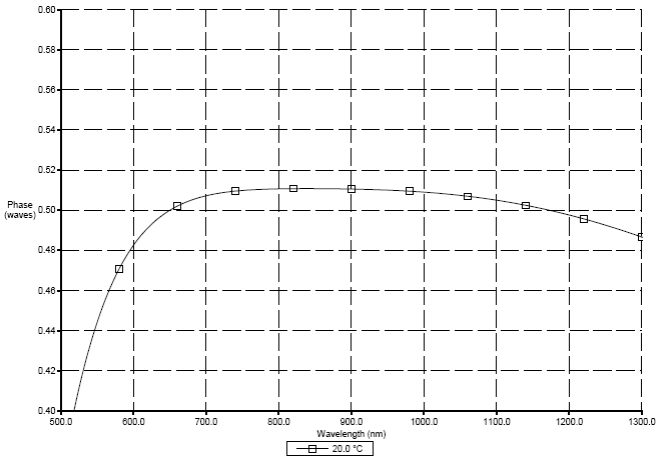
TYPICAL BANDWIDTHS OF ACHROMATIC λ/2 WAVEPLATES



λ/2 waveplate for the range 450-650 nm: ACWP-450-650-xx-2



λ/2 waveplate for the range 550-750 nm: ACWP-550-750-xx-2



λ/2 waveplate for the range 650-1100 nm: ACWP-650-1100-xx-2

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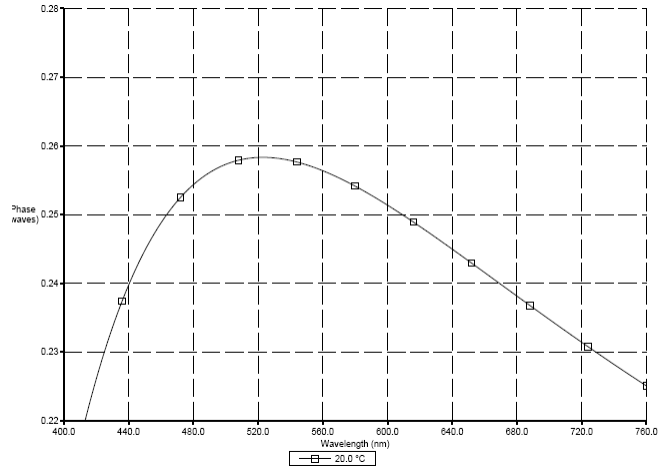
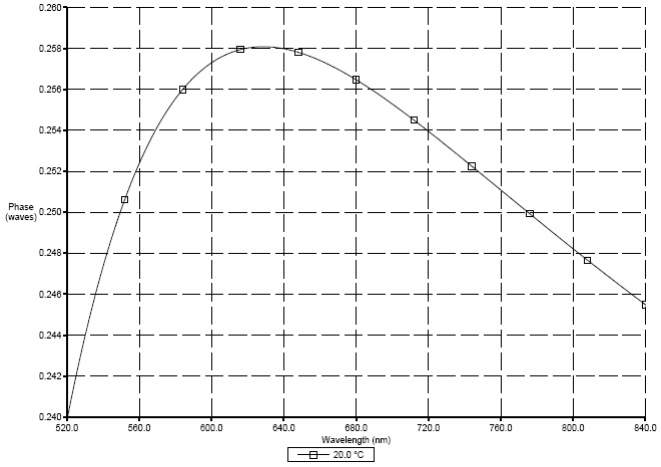
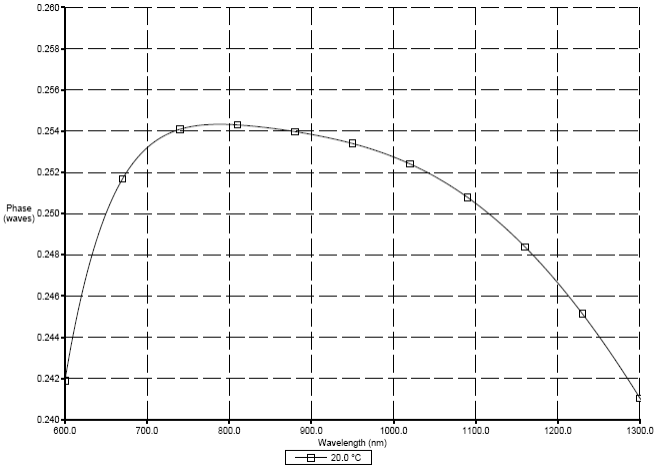
TYPICAL BANDWIDTHS OF ACHROMATIC λ/4 WAVEPLATES



λ/4 waveplate for the range 450-650 nm: ACWP-450-650-xx-4



λ/4 waveplate for the range 550-750 nm: ACWP-550-750-xx-4



λ/4 waveplate for the range 650-1100 nm: ACWP-650-1100-xx-4

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