

magnetron-sputtered

Metal UV Bandpass Filters

Chroma Technology is a leading manufacturer of interference filters for the ultra-violet, visible and near-infrared portions of the spectrum. Established as an employee-owned company in 1991, Chroma has specialized in the design and manufacture of precision optical filters and coatings in the United States for more than 20 years.

Chroma Technology Corp. introduces a new line of magnetron-sputtered metal UV induced transmission bandpass filters that exceed industry standards in both transmission efficiency and durability, while continuing to offer reasonable pricing and a wide variety of custom dimensions.

Responding to a need for high performing UV filters, Chroma engineering has expanded magnetron sputtering materials to include bandpasses transmitting below 300 nm (down to 200 nm), while maintaining complete blocking/attenuation well into the IR. Initial bandpass offerings are centered on common discharge lamp lines, including 214, 254 and 280 nm.

Chroma's magnetron sputter technology generates filters on a single UV fused silica substrate with highest transmission for this class of filter and OD4+ blocking of visible and IR wavelengths on single glass substrates. Production of these filters on plate substrates allows for customization in the size and shape of the filters, ranging from 2x2 mm to parts of 200 mm diameter available. Specialized and fully automated coating chambers allow the production of both small batch sizes for evaluation and high volumes at reasonable prices.

This new coating methodology produces filters with excellent environmental and laser/radiation damage thresholds for this class of filter. Laser damage threshold testing with a 355 nm laser (10 ns pulse, 10 Hz) resulted in damage thresholds of 0.15 J/cm² or better. Irradiation testing using a 100W Hg arc lamp (>3.0 W/cm²) resulted in no discernable damage for up to a minimum of 46 hours of continuous illumination. Thermal testing at 300°C for a minimum of two hours resulted in no noticeable damage or degradation of the filters.

Additionally, all sputtered UV filters carry Chroma's 5-year full replacement warranty and industry-leading technical and engineering support. State of the art quality control guarantee long-term repeatability in technical and spectral performance. Chroma's production tolerances fulfill international ISO, NIST, MIL and other standards.

Along with standard wavelength offering Chroma is also able to provide custom specialized filters at reasonable prices. Our highly experienced staff applies new design development according to customer specification and application. Technical sales staff work to understand customer needs and engineers pair requests with designs and coating strategies.

Please contact our sales team for custom design quotations (RFO).



Product Highlights

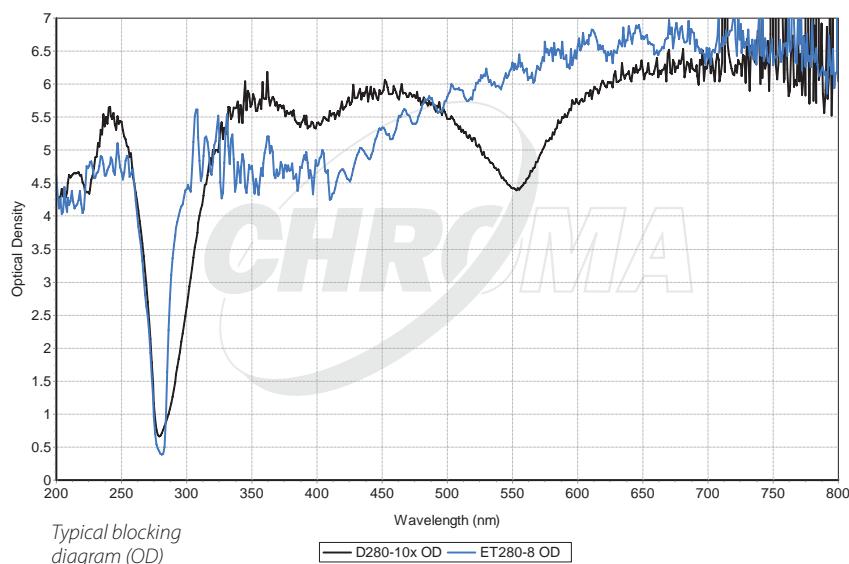
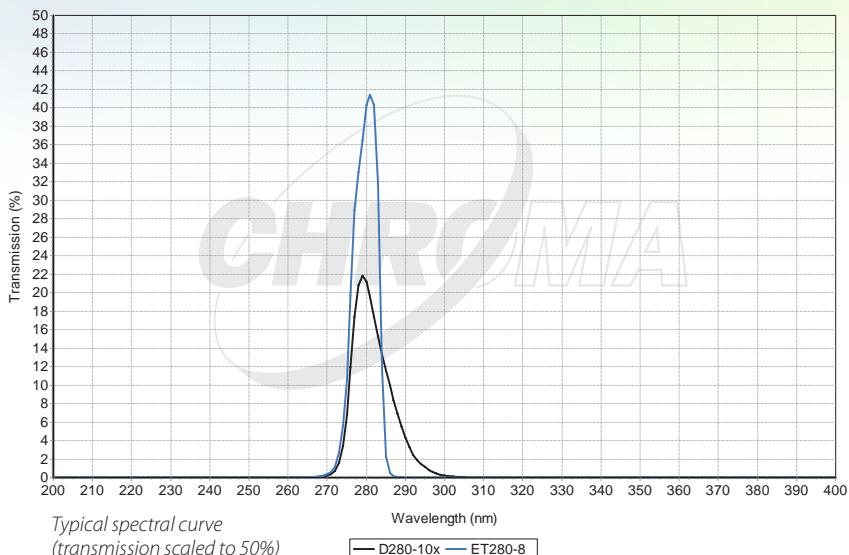
- ▶ Robust magnetron-sputtered with a 5-year guarantee
- ▶ Metal UV filters from 200-380 nm, offering full dielectric coatings beyond 380 nm. Custom options available.
- ▶ Does not contain absorption or other colored glass
- ▶ Single substrate parts available in custom shapes and sizes
- ▶ Current offerings available for UV Hg lines
- ▶ High damage thresholds (laser damage, irradiation, humidity, thermal)
- ▶ Small batches for evaluation
- ▶ High volume for serial production
- ▶ Custom designs available
- ▶ Production according to customer specifications
- ▶ Made in USA

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Measured spectra of a UV-magnetron metal sputtered ET280-8 compared with traditional UV-E-beam coated metal D280-10x. Steeper transition from %T to OD near band as well as higher transmission in the band pass and blocking to the F-IR.



Catalog parts:

214/20nm	Zn
220/10nm	
220/20nm	
230/10nm	Cd
250/10nm	
250/20nm	
254/10nm	Hg
260/10nm	
280/10nm	Hg
289/10nm	Hg
300/10nm	
300/20nm	
303/10nm	
313/25nm	Hg
325/10nm	Cd
325/20nm	
334/10nm	Hg
336/10nm	N laser
340/10nm	
365/10nm	Hg
375/10nm	
375/20nm	

Call for custom wavelengths and blocking specs.