MaxLine Common Specifications

Property		Value	Comment
Laser Wavelength λ_L		Standard laser wavelengths available	
Transmission at Laser Line		> 90%	Except λ_L < 400 nm; Will typically be even higher
Bandwidth	Typical	0.38% of λ_L	Full Width at Half Maximum (FWHM) Typical 0.7% and Maximum 0.9% for 248.6 & 266 nm
	Maximum	0.7% of λ_L	
Blocking[1]		OD > 5 from λ_L ± 1% to 4500 cm^{-1} (red shift) and 3600 cm^{-1} (blue shift); OD > 6 from λ_L ± 1.5% to 0.92 and 1.10 × λ_L	OD = – $\log_{10}$(Transmission)
Angle of Incidence		0.0° ± 2.0°	
Temperature Dependence		< 5 ppm / °C	< 0.003 nm / °C for 532 nm filter
Laser Damage Threshold		0.1 J/cm^2 @ 532 nm (10 ns pulse width)	Tested for 532 nm filter only
Substrate Material		Low autofluorescence NBK7 or better	Fused silica for 248.6, 266, and 325 nm filters
Coating Type		"Hard" ion-beam-sputtered	
Outer Diameter		12.5 + 0.0 / – 0.1 mm (or 25.0 + 0.0 / – 0.1 mm)	Black-anodized aluminum ring
Overall Thickness		3.5 ± 0.1 mm	
Clear Aperture		≥ 10 mm (or ≥ 22 mm)	For all optical specifications
Transmitted Wavefront Error		< λ / 4 RMS at λ = 633 nm	Peak-to-valley error < 5 × RMS
Beam Deviation		≤ 11 arc seconds	
Surface Quality		60-40 scratch-dig	Measured within clear aperture
Reliability and Durability		Ion-beam-sputtered, hard-coating technology with epoxy-free, single-substrate construction for unrivaled filter life. MaxLine filters are rigorously tested and proven to MIL-STD-810F and MIL-C-48497A environmental standards.	

[1] The wavelengths associated with these red and blue shifts are given by $\lambda = 1/(1/\lambda_L - \text{red shift} \times 10^{-7})$ and $\lambda = 1/(1/\lambda_L + \text{blue shift} \times 10^{-7})$, respectively, where λ and λ_L are in nm, and the shifts are in cm^{-1}. Note that the red shifts are 3600 cm^{-1} for the 808 and 830 nm filters and 2700 cm^{-1} for the 980 nm filter, and the red and blue shifts are 2400 and 800 cm^{-1}, respectively, for the 1047 and 1064 nm filters.