



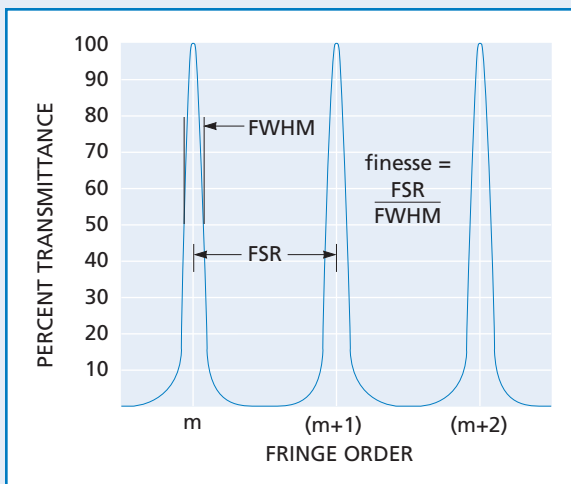
Air-Spaced Etalons

These air-spaced etalons can be specified with any center wavelength from 190–2100 nm and the reflectivity required to achieve the desired finesse. The spectral bandwidth and variation in reflectance over that bandwidth will depend on a number of factors including center wavelength and exact coating design.

APPLICATION NOTE

Transmission Properties of an Etalon

The most important properties of an etalon are its passband spacing (free spectral range or FSR) and its frequency resolution (FWHM). The FSR is determined by the spacing between the reflecting surface (d) and the resolution is determined primarily by the reflectivity of the mirror coatings (R). The finesse of the etalon (FSR/FWHM) is given by the formula $\pi R^{1/2} / (1 - R)$



SPECIFICATIONS: Air-Spaced Etalons

Optical Material	UV-grade fused silica
Surface Quality	10-5 scratch and dig
Spacer Thickness	25 μm –10 mm
Coating Technology	Low-stress multilayer dielectric
Reflectance	User specified
Center Wavelength	User specified from 190–2100 nm
Damage Threshold	10 J/cm ² , 20 nsec, 20 Hz @ 1064 nm

Build Your Own

ETA — 25 — 100 — 248 — 74

Product Code

ETA

Clear Aperture (ϕ mm)	Mount Size (ϕ mm)
20	44.5
25	47.6
30	50.8

Air Gap (μm)	FSR at 600 nm (cm^{-1})
25	200.0
50	100.0
100	50.0
150	33.3
250	20.0
500	10.0
1000	5.0
2000	2.5
5000	1.0

Wavelength (nm)

193	308	532	1064
248	488/515	1047	

Reflectance (%)

30	60	82	90	95
40	74	86	93	97