3-Mirror solid etalon requirements

Requirements: (See attached drawing for more details – page 1)

Parameter	Value
Absolute thickness of glass spacers	3.1 mm ± 0.05 mm
Thickness variation of a single spacer	< 2 nm rms
Difference in thickness between the two spacers	< 5 nm rms
Surface flatness	< lambda/10 (@633 nm)
Diameter	50 mm
Clear Aperture	≥ 45 mm
Design wavelength	1651 nm
Free spectral range	~300 pm
Reflectivities (@1651 nm)	See Drawing – page 1
Mounting	Aluminum ring for 2" mirror mount

Best effort performance requirements:

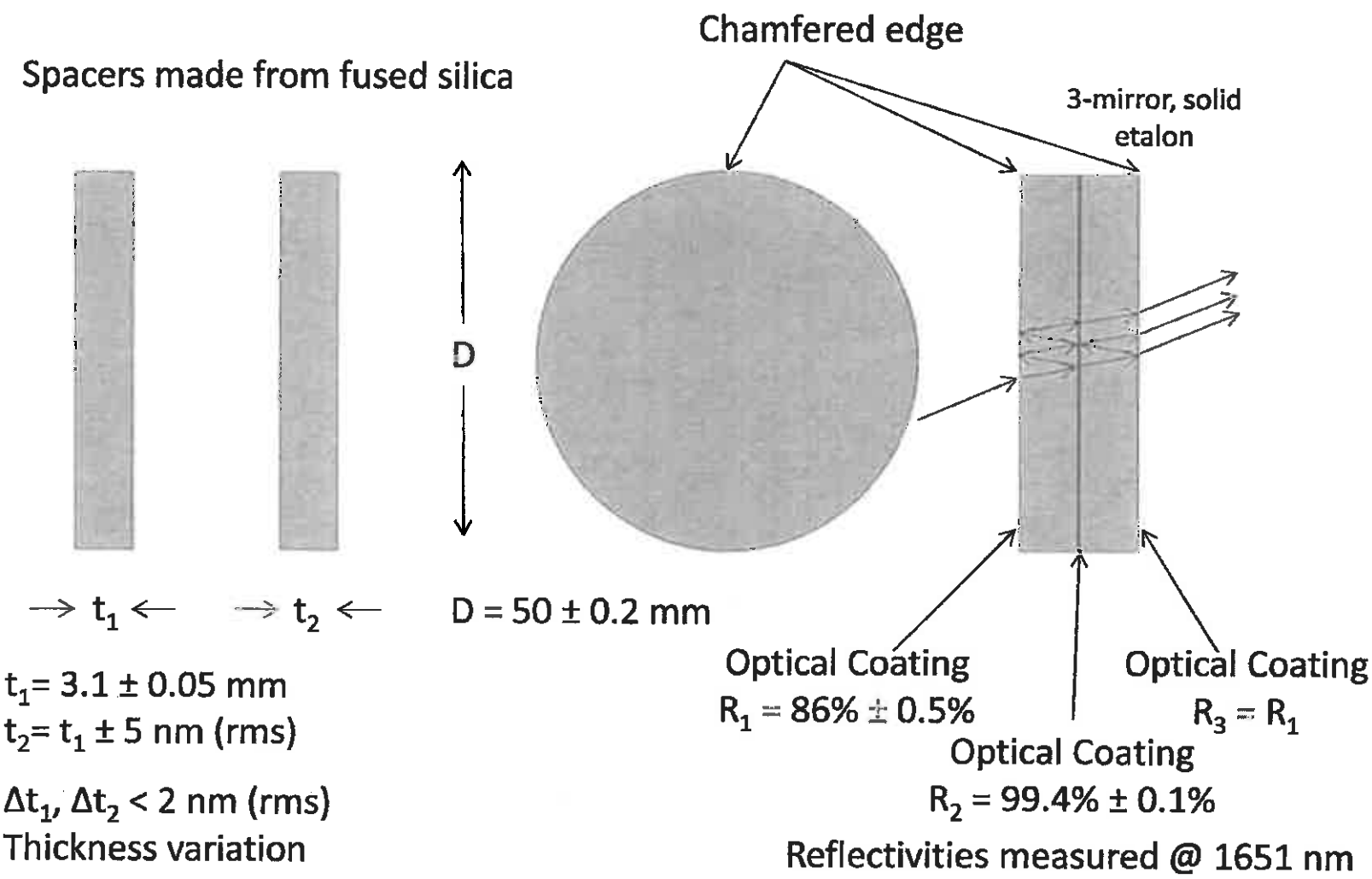
Parameter	Expected Value
Transmission Bandwidth (FWHM)	< 10 pm
Peak Transmission	> 90%
Dip in central transmission peak	< 5%

Matching 2-mirror solid etalon Requirements

Requirements: (See attached drawing for more details – page 2)

Parameter	Value
Absolute thickness of glass spacers	3.1 mm ± 0.05 mm
Thickness variation of spacer	< 2 nm rms
Surface flatness	< lambda/10 (@633 nm)
Diameter	50 mm
Clear Aperture	≥ 45 mm
Design wavelength	1651 nm
Free spectral range	~300 pm
Reflectivities (@1651 nm)	See Drawing – page 2
Mounting	Aluminum ring for 2" mirror mount
Transmission Bandwidth (FWHM)	< 10 pm
Peak Transmission	> 90%

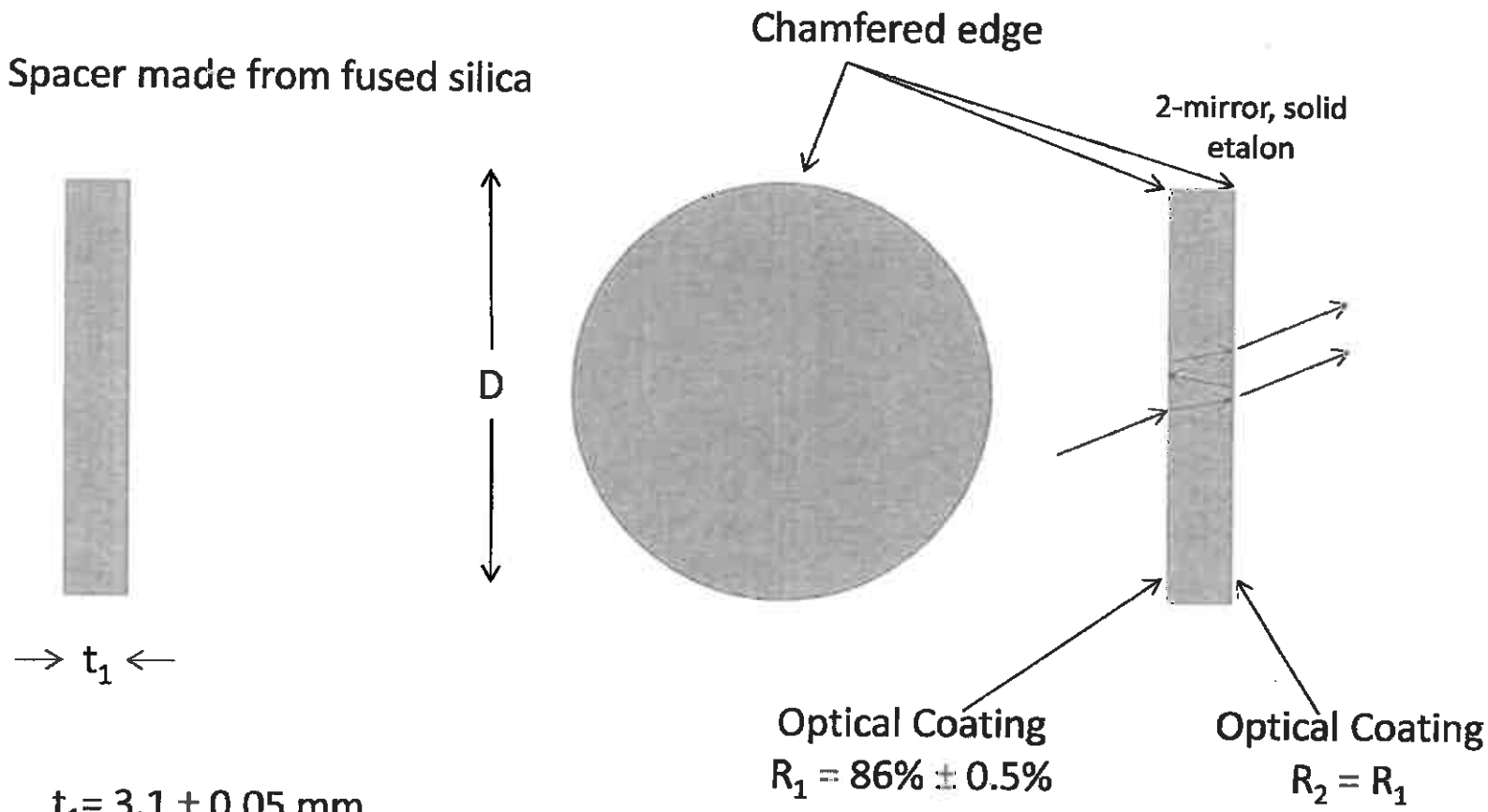
3-Mirror etalon drawing



t_1= 3.1 ± 0.05 mm
t_2= t_1 ± 5 nm (rms)

Δt_1, Δt_2 < 2 nm (rms)
Thickness variation

2-Mirror (standard) etalon drawing



t_1= 3.1 ± 0.05 mm
Thickness variation < 2 nm (rms)
D = 50 ± 0.2 mm

Reflectivities measured @ 1651 nm