



Beamsplitter (Wedged) Specifications

APPROVALS	DATE	REV	DCN NO.	BY	CHECK	DCC	DATE
AUTHOR: H. Armandula	05-20-05						
CHECKED:							
APPROVED: P. Fritschel							
DCC RELEASE							

1 Material

Fused silica 7980 - Low inclusion- Grade OA

2 Dimensions

2" dia. +0/- .010"

Thickness: 1/2" ± .010"

Chamfers: 0.002" ± 0.001" @ 45° ±15°

3 Surface Roughness

Side 1

Superpolished - < 1 Angstrom over central 80 % of diameter with 10-5 scratch-dig; best effort for 0/0

20-10 scratch-dig outside central 80 % of diameter

Side 2

< 5 Angstrom over central 80 % of diameter

4 Surface Figure

Side 1

Flat ≤ λ/10 at 632.8 over central 80% of diameter

Side 2

Flat ≤ λ/10 at 632.8 over central 80% of diameter

5 Wedge

30 arc minutes ± 5 arc minutes

6 Coating

Wavelength: 1064 nm

Angle of incidence: 45° for all beamsplitters

**Beamsplitter (Wedged) Specifications****Beamsplitter-1****Side 1**

50:50 (R:T) for "P" polarization

Absolute value of (R-T) < 2%

Side 2**AR: "P" polarization**

R < /= 1000 ppm – Best effort for < 500ppm

Beamsplitter-2**Side 1**

50:50 (R:T) for "S" polarization

Absolute value of (R-T) < 1%

Side 2

"S" polarization

AR: R < /= 1000 ppm - Best effort for < 500ppm**Beamsplitter-3****Side 1**

90:10 (R:T) for "P" polarization

R = 90% ± 2%

Side 2

"P" polarization

AR: R < /= 1000 ppm - Best effort for < 500ppm**Beamsplitter-4**

90:10 (R:T) for "S" polarization

R = 90% ± 2%

Side 2

"S" polarization

AR: R < /= 1000 ppm - Best effort for < 500ppm**Coating vendor to provide:**

1. One 1" dia. witness sample from each coating run
2. Two spectrophotometer graphs of the reflectance and transmittance of the HR coatings; one covering the spectrum from 530nm to 1200nm; the other, with increased sensitivity, showing wavelengths from 900nm to 1100nm



Beamsplitter (Wedged) Specifications

3. Spectrophotometer graphs of the reflectance of the AR coating taken as cited above.