Advanced LIGO Output Mode Cleaner Coating Specifications

APPROVALS	DATE	REV	DCN NO.	BY	CHECK	DCC	DATE
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1 Description

A list of the coatings for the Advanced LIGO Output Mode Cleaner optics

2 General Specifications

Wavelength: 1064nm
Polarization: P
Coating Scatter: < 5 ppm
Type: low absorption, ion beam sputtered deposition

3 Specific Coatings

Coating A: Input/Output coupler
Side 1
HR T = 8300 ±800 ppm @ 4 degrees AOI (best effort for ±400ppm)
HR T <1%, T > 0.1% @ 45 degrees AOI (best effort)
Side 2
AR R < 0.1%, best effort < 100 ppm @ 4 degrees AOI
AR R < 1% @ 45 degrees AOI

Coating B: Beam splitter
Side 1
50/50 T = 50 ± 2% @ 45 degrees AOI
Side 2
AR R < 0.1% @ 45 degrees AOI

Coating C: High reflector
Side 1
HR T = 50 ± 10ppm @ 4 degrees AOI
HR T < 1000ppm @ 45 degrees AOI (best effort)
Side 2
AR R < 0.1%, best effort < 100 ppm @ 4 degrees AOI
AR R < 0.1% @ 45 degrees AOI

Coating D: Asymmetric output coupler
Side 1
HR T = 4150 ±400 ppm @ 4 degrees AOI (please see note in Statement of Work)
Side 2
AR R < 0.1%, best effort < 100 ppm @ 4 degrees AOI

4 Metrology

Coating vendor to provide:

1. Two 1" witness samples from each coating run
2. Spectrophotometer graphs of the reflectance and transmittance of the HR
3. Spectrophotometer graphs of the reflectance of the AR coating