



SPECIFICATION

Advanced LIGO Output Mode Cleaner Coating Specifications

APPROVALS	DATE	REV	DCN NO.	CHECK
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APPROVED:				
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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)

Side 2

AR R < 0.1%, best effort < 100 ppm @ 4 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



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Coating C: High reflector

Side 1

HR $T = 50 \pm 10\text{ppm}$ @ 4 degrees AOI

Side 2

AR $R < 0.1\%$, best effort $< 100\text{ ppm}$ @ 4 degrees AOI

Coating D: Asymmetric output coupler

Side 1

HR $T = 4150 \pm 400\text{ ppm}$ @ 4 degrees AOI (please see note in Statement of Work)

Side 2

AR $R < 0.1\%$, best effort $< 100\text{ ppm}$ @ 4 degrees AOI

Coating E: High reflector

Side 1

HR $T = 7500 \pm 2500\text{ ppm}$ @ 45 degrees AOI

Side 2

AR $R < 0.1\%$, best effort $< 100\text{ ppm}$ @ 45 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