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| **APPROVALS** | **DATE** | **REV** | **DCN NO.** | **CHECK** |
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| **P. Fritschel** | **01-25-2012** | **4** |  |  |
| **APPROVED:** |  |  |  |  |
| **DCC RELEASE** |  |  |  |  |

# Description

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

# General Specifications

Wavelength: 1064nm

Polarization: P

Coating Scatter: < 5 ppm

Type: low absorption, ion beam sputtered deposition

# 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

**Coating C:** High reflector

**Side 1**

HR T = 50 ± 10ppm @ 4 degrees AOI

**Side 2**

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

**Coating E:** High reflector

**Side 1**

HR T = 7500 ±2500 ppm @ 45 degrees AOI

**Side 2**

AR R < 0.1%, best effort < 100 ppm @ 45 degrees AOI

# 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