

 LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY SPECIFICATION	Drawing No	Rev.	Group
	Sheet 1	of	1

Adv. LIGO - OMC – Curved Substrate Specifications

APPROVALS	DATE	REV	DCN NO.	BY	CHECK	DCC	DATE
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CHECKED:							
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DCC RELEASE							

1 Material

Fused Silica 7980, Class 0C

2 Dimensions

12.7 mm diameter $+0/-0.13$ mm

3.1 mm thick

Chamfers 0.25–0.76 mm face width $45^\circ \pm 15^\circ$

3 Surface Figure

200cm cc/pl

Spherical Tolerance $\pm 1\%$

Surface Accuracy $\leq \lambda/4$ at 632.8 nm over the clear aperture

Edge Thickness (T_e) Tolerance ± 0.25 mm

Center Thickness (T_c) Tolerance Nominal value

Wedge: ≤ 0.03 mm edge thickness variation

4 Surface Roughness / Quality

Side 1

Superpolished < 1 Angstrom over central 80 % of diameter with 10-5 scratch-dig; 20-10 scratch-dig outside central 80 % of diameter

Side 2

< 5 Angstrom over central 80 % of diameter