

Shape and polish LASTI ETM blank

AUTHOR:	CHECKED:	DATE	APPROVALS		
			DCN NO.	REV	DATE
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Applicable Documents

LIGO-D040431-B	Quad ETM Silica Test Mass
LIGO-D030265-A	Fused Silica Blank LASTI Test Mass
LIGO-E030309-A	Fused Silica Blank, LASTI Test Mass, R&D

Requirements

Physical Configuration

Shape and Polish only according to	
LIGO-D040431-A	Quad ETM Silica Test Mass, X-dimension 200.6 ± 0.2 mm
Fabricate from	
LIGO-E030309-A	Fused Silica Blank, LASTI Test Mass, R&D
LIGO-D030265-A	Draft Fused Silica Blank LASTI Test Mass

Registration Marks

Registration marks shall be etched, ground or sandblasted and located per LIGO-D040431

Serial Number

Serial Number “LEM 1” shall be etched, ground or sandblasted and located per LIGO-D040431

Side and Bevel Polish

Sides and Bevels shall be polished from a five micrometer grit finish. These surfaces shall appear transparent with no grey, scuffs or scratches visible to the naked eye when viewed in normal room light against a black background.

Surface 1 and 2 Polish

Surfaces 1 and 2 be polished to a 15 micrometer grit finish.

Mounting Flat Figure, measured over the Bond Area per D040431, 2 places

Flat: Peak to valley maximum deviation over the bond area, with tilt subtracted: < 60 nm
 Surface rms error over the bond area: < 10 nm

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Inspections

Specification	Test Method	Data Delivered
Outside Diameter	Physical inspection	Measured dimension
Wedge	Physical inspection	Measured dimension
Thickness	Physical inspection	Measured X- dimension per D040431-A
Bond area flatness	Interferometry	Surface map for each bond area