



Compensation Plate Electro Static Drive gold coating specification

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A patterned gold coating is to be deposited onto the S1 face of the Compensation Plate. The Compensation Plate (CP) is a cylindrical fused silica substrate, 340 mm diameter x 100 mm thick with no bumper holes; see LIGO-D1000979 for the detailed drawing of the CP.

Applicable Documents

LIGO-D1000979-v2 COC TCP Substrate

OR

LIGO D1000979-v3 COC TCP Substrate

LIGO-D080177-v4 Compensation Plate ESD Pattern-Face

Coating Specifications:

Side S1 of D1000979 is to be coated with an Electro-Static Drive (ESD) pattern per D080177.

Underlayer: 500 Angstroms (nominal) of Inconel, Chromium or other suitable material to provide adhesion.

Gold coating: 1000 Angstroms (nominal) gold.

Uniformity: Coating thickness should be uniform to approximately 25%.

Pattern registration: The pattern should be centered on the CP to within 0.5 mm. Note: The outer diameter of the pattern is 336 mm; the diameter of the CP is 340 mm, with a 2 mm chamfer around its perimeter. Therefore, given the tolerances specified, the pattern may overlap the chamfer by as much as 0.5 mm.

Durability: The coating must be able to withstand soldering, using an Indium-Silver solder, at a temperature of 195° C.