

# Glass-Body Design Handling, Inventory, Quality Control

for the LAPPD Mechanical Group  
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# Handling -- Clean but Not Clean Room Environment

## Present:

- ▶ Processing, assembly occurs in minimal locations: ALD Lab, Glass Shop, APS Laser
- ▶ Internals cleaned before processing, assembly & kept in ALD Lab
- ▶ Completed Mock Tile transported from ALD Lab to Glass Shop Oven
- ▶ Ultra-sonic cleaning to be used in any near future work

## Future:

- ▶ All parts to be cleaned ultrasonically
- ▶ Storage in dry gas cabinet awaiting processing
- ▶ Tile bases (bottom plate + sidewall) pre-assembled
- ▶ Parts introduced into vacuum transfer system, baked, internals assembled, and top window sealing in vacuum
- ▶ Clean parts do not see atmosphere once in vacuum until completed detector



# Inventory

## Present:

- ▶ Bottom Anode Plates -- 20 “standard” signal silver strip (acquire new set based on Chicago electronics work or Mock Tile findings?)
- ▶ Sidewalls -- ~10–15 7.5mm & 9mm; new 9mm sidewalls on order
- ▶ Top plates -- 20 2.75mm silver bordered top plates
- ▶ Grid Spacers -- 20 new 2mm Grid Spacers; bottom Grid Spacer thickness yet to be determined
- ▶ Mock MCP plates – 19 plates most with high resistance ( $G\Omega$ ) ALD coating
- ▶ Getter holders -- Need to order several sizes of rectangular tubing

## Future:

- ▶ Fabricate pieces and store at glass shops
- ▶ Need to farm out tile base production to glass shop
- ▶ Keep parts on hand for 2–4 weeks of 10/week production
- ▶ Storage in  $N_2$  dry box



# Quality Control

## Present:

- ▶ Visually inspect pieces for cracks, flaws, bad tolerance
- ▶ Measure Grid Spacer & MCP thicknesses
- ▶ Custom fit getter holder or glass mock getter spacers
- ▶ Measure resistance of Grid Spacers individually and select for desired operating voltage/current

## Future:

- ▶ Need to understand tolerance requirements and demand fabrication to tolerance
- ▶ Measure dimensions of all parts; store in data base?
- ▶ Station(s) for Grid Spacer and MCP resistance measurement (MCP station operating now for 33mm disks)
- ▶ Improve cutting techniques for parts to produce better quality surfaces



# BACKUP SLIDES

