

# protoDUNE-SP HV (brief) Update: End Walls

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*protoDUNE-SP ITI Weekly Meeting*

# RD End Wall

*Fully assembled and inside the cryostat.*

Observed a bow in the end wall after connecting the panels.

Result of small kinks at each inter-panel connection that add up over the length of the wall.

Cryostat side of the wall have bushings inside the connecting plate + box beam bolt holes that fix the position of the plate relative to the beam exactly.

TPC side bolt holes are oversized wrt the SS bolts. There is room to move the two panels closer or further away from one another on this side.

When connections were made, top panels were hanging vertically, usually at some angle wrt vertical, and the bottom panels had their weight on the ground.

Moving forward, we will engage bolts by hand like this and tighten after the weight is off the ground.

Also came up with a jig to help facilitate getting the planes in line while loose.



After hanging  
Bow not measured



After relaxing joints  
 $\approx 9$  mm bow



After tuning joints  
<2.5 mm bow

# RU End Wall + Beam Plug

Successfully installed the beam plug onto its EW panel.

- lay the panel horizontally on an assembly table (TPC-facing side up)
- remove the FRP cross plate that takes the load of the beam plug from the panel
- mount the beam plug on the cross plate, while it is detached from the panel
- carefully feed the beam plug through the opening in the profile plane and reattach the cross plate to the panel

As for the beam plug itself:

- Secondary structural support, three parallel resistor chains, HV and ground connection, and hose extension have been installed
- Survey done yesterday. Positioned of the beam plug surveyed relative to the FC box beam frame
- Leak testing of the beam plug underway

