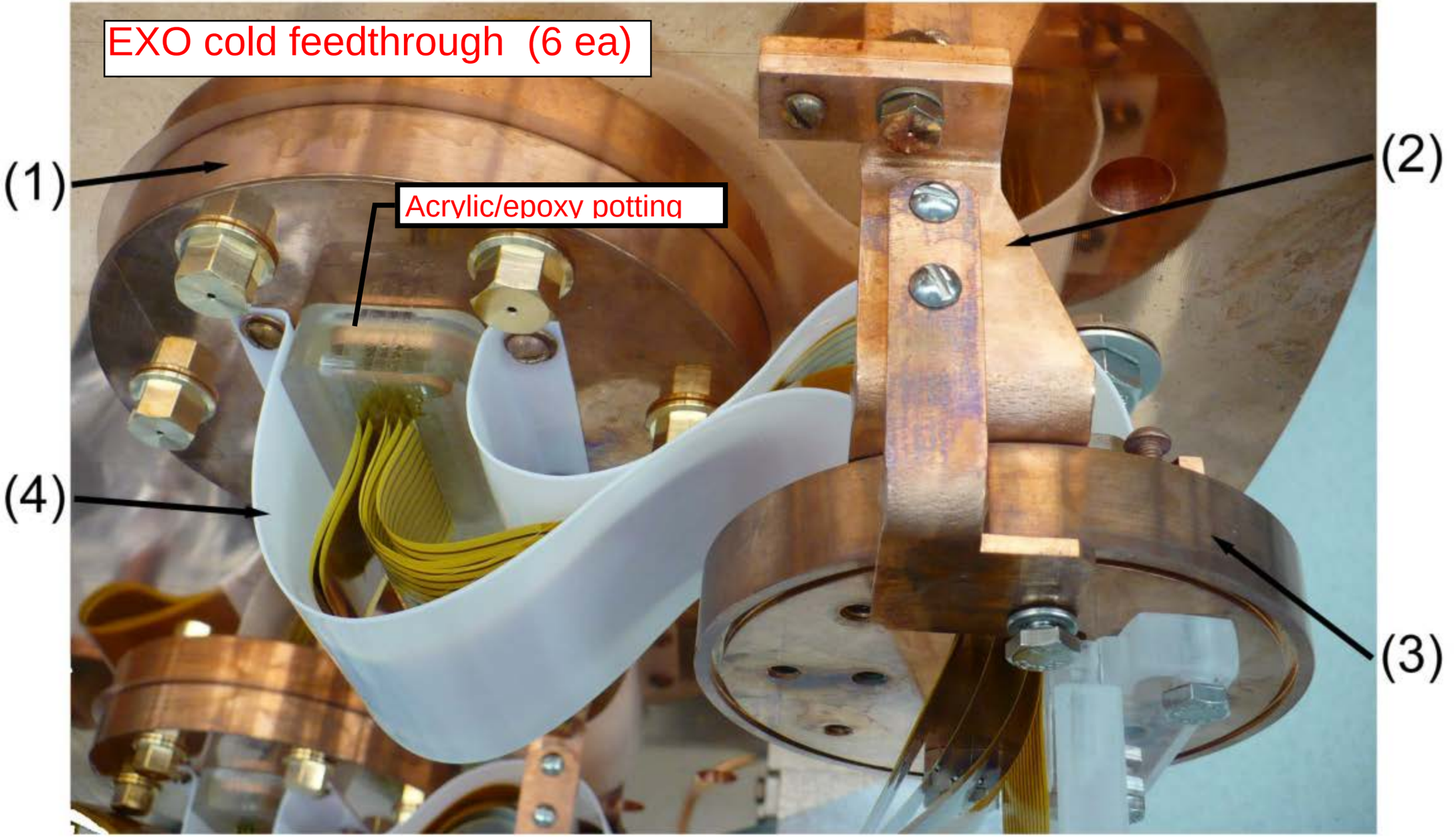
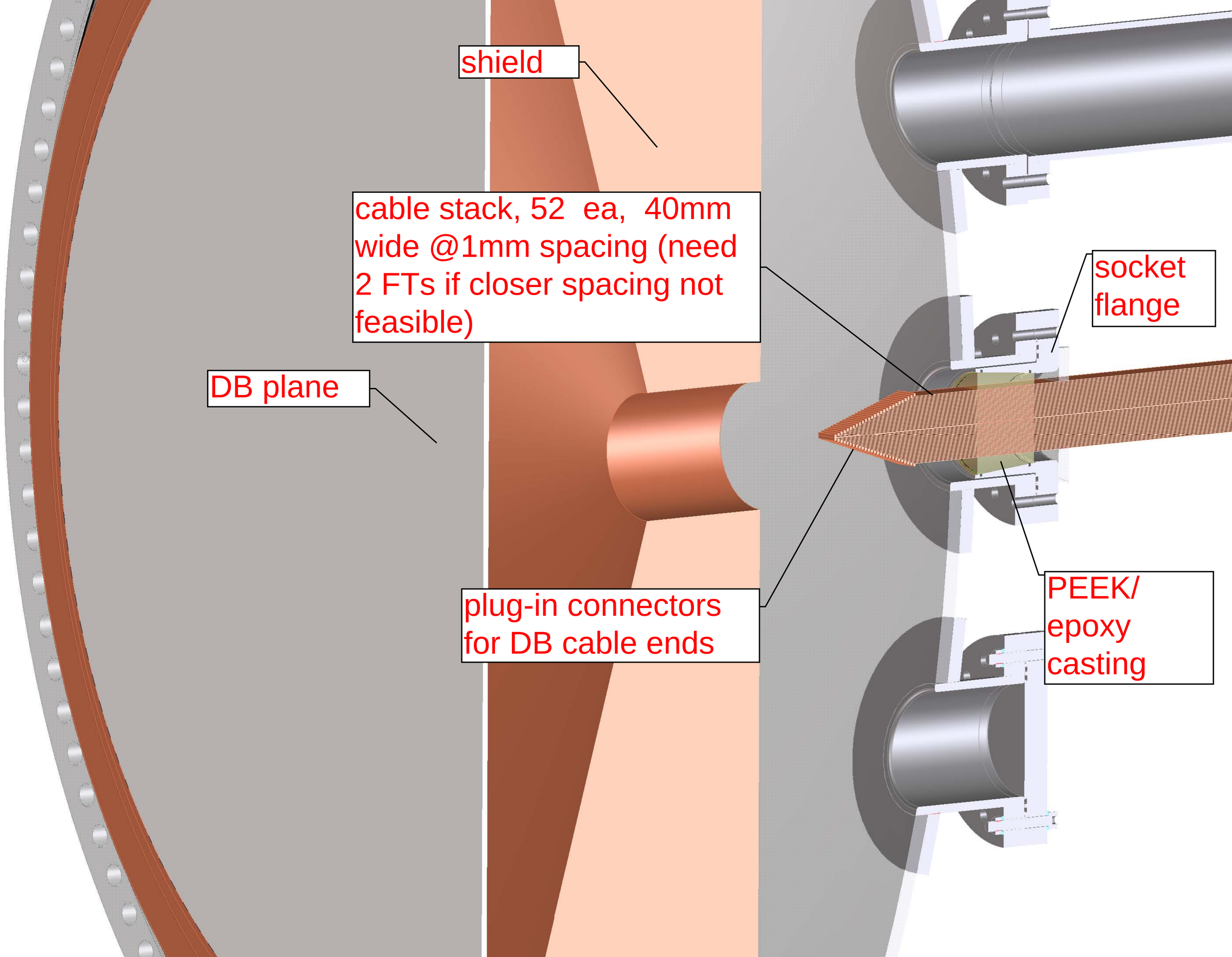
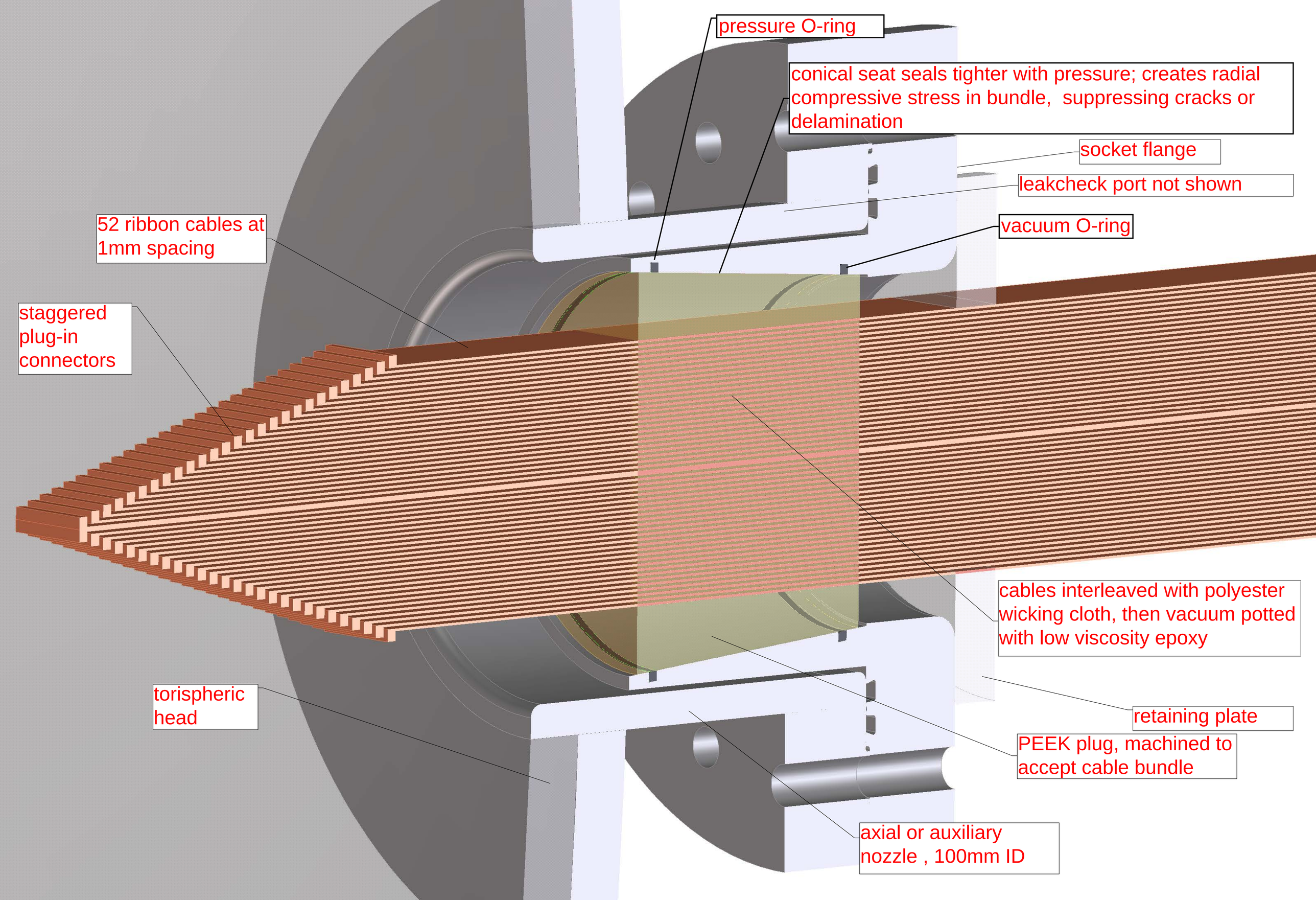
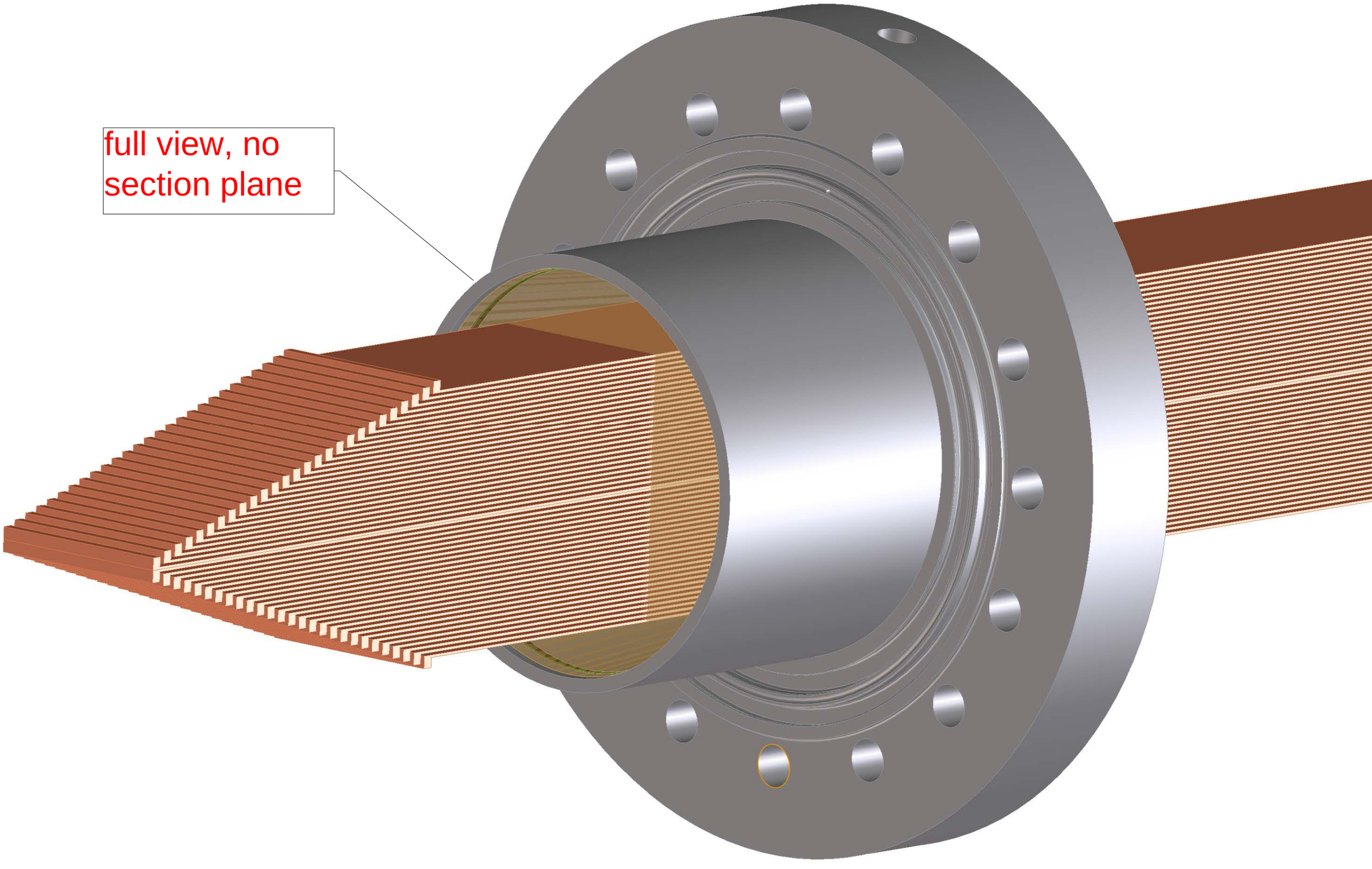
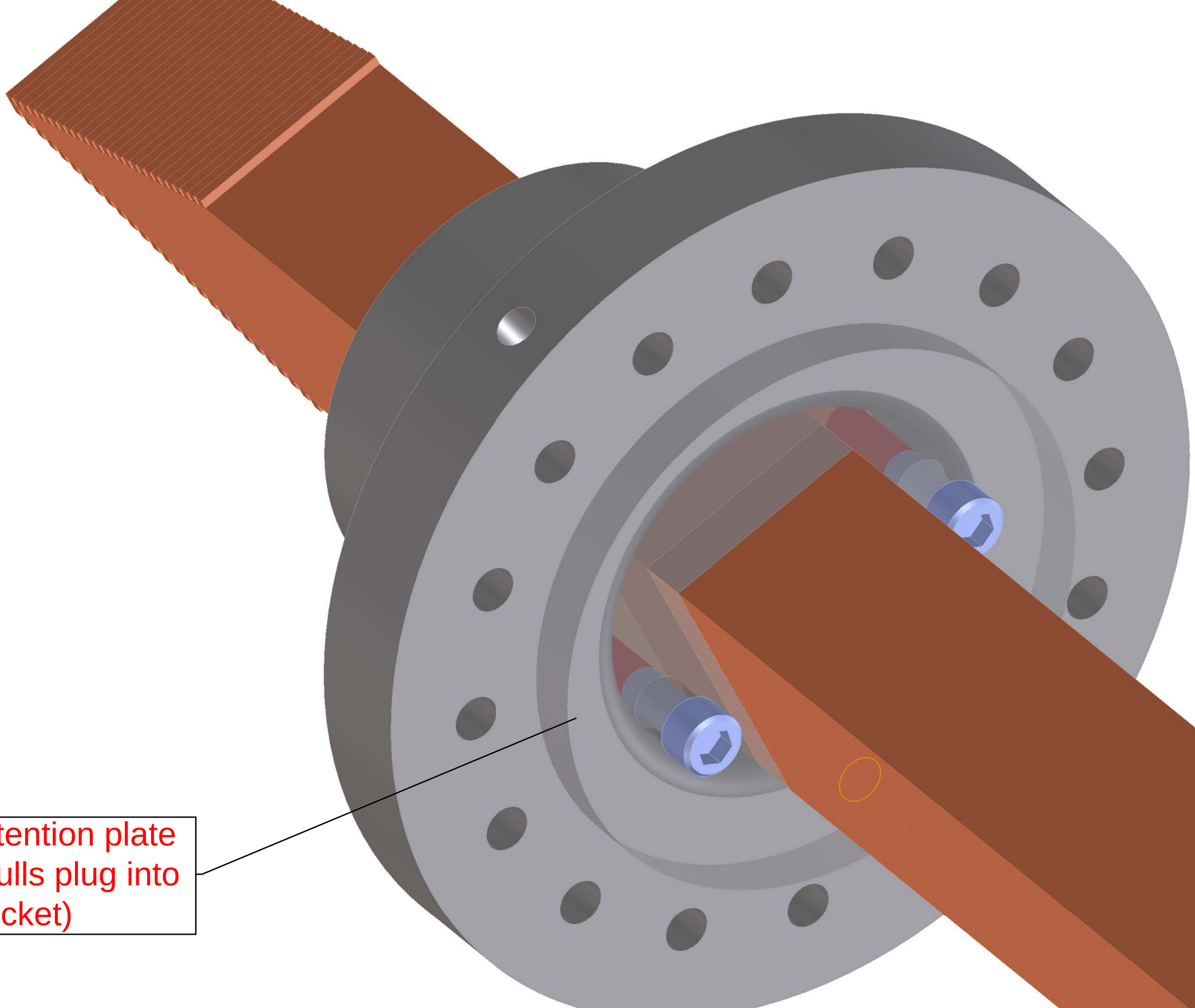


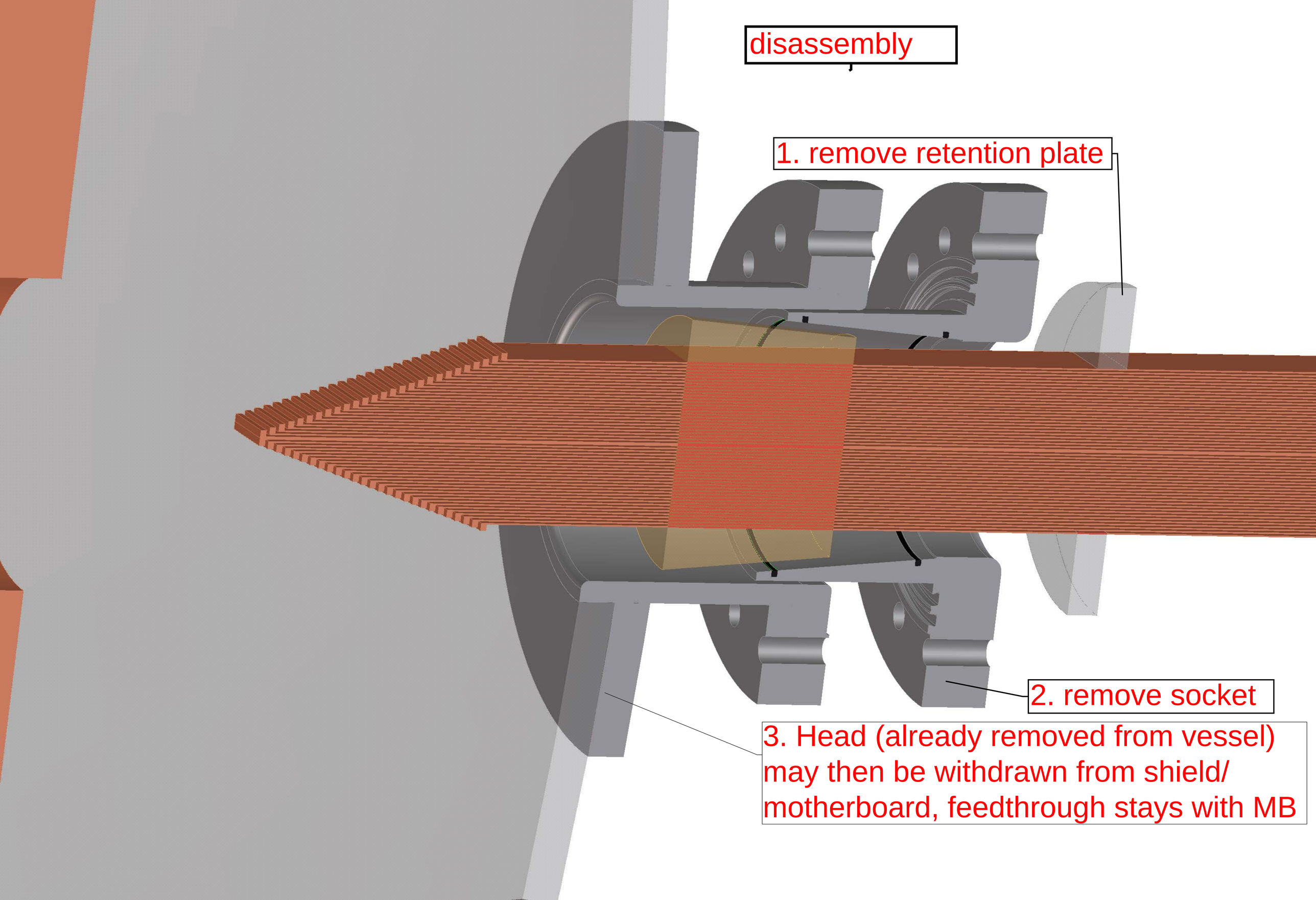
Figure 18. View of warm and cold cable feedthroughs, as installed. (1) Cold flange that makes the seal from LXe to vacuum, showing acrylic cup filled with epoxy. (2) Temporary bracket holding the warm flange during TPC transportation and installation. (3) Warm flange making the seal from the cryostat insulation vacuum to atmosphere. (4) PTFE strain relief. The service loop shown is in the insulation vacuum of the

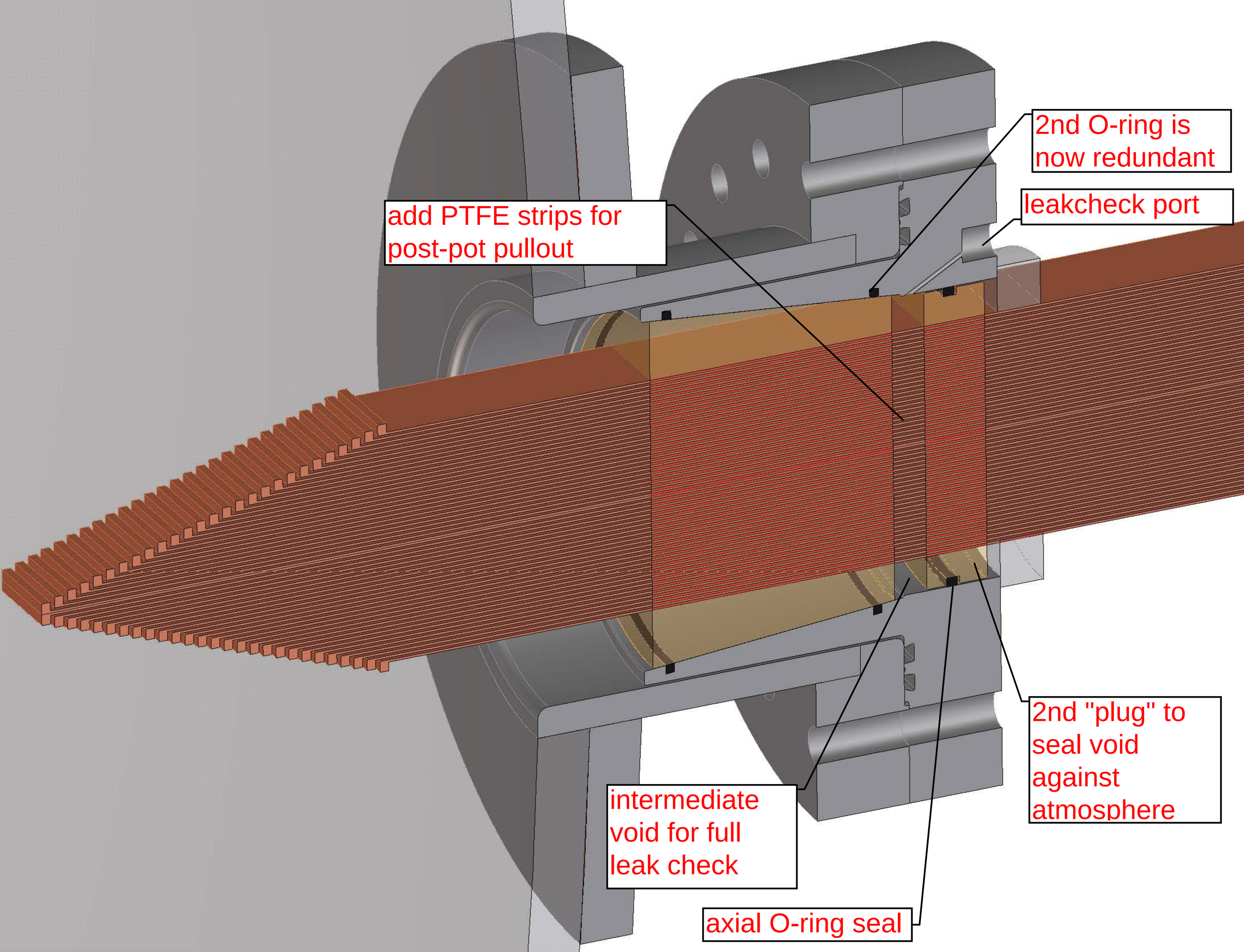

shield
cable stack, 52 ea, 40mm wide @1mm spacing (need 2 FTs if closer spacing not feasible)
DB plane
socket flange
plug-in connectors for DB cable ends
PEEK/ epoxy casting


pressure O-ring
conical seat seals tighter with pressure; creates radial compressive stress in bundle, suppressing cracks or delamination
socket flange
leakcheck port not shown
vacuum O-ring
52 ribbon cables at 1mm spacing
staggered plug-in connectors
cables interleaved with polyester wicking cloth, then vacuum potted with low viscosity epoxy
torispheric head
retaining plate
PEEK plug, machined to accept cable bundle
axial or auxiliary nozzle , 100mm ID


full view, no
section plane


retention plate
(pulls plug into
socket)


disassembly
1. remove retention plate
2. remove socket
3. Head (already removed from vessel) may then be withdrawn from shield/ motherboard, feedthrough stays with MB


add PTFE strips for post-pot pullout
2nd O-ring is now redundant
leakcheck port
intermediate void for full leak check
axial O-ring seal
2nd "plug" to seal void against atmosphere

cross section at 90 deg to previous sections