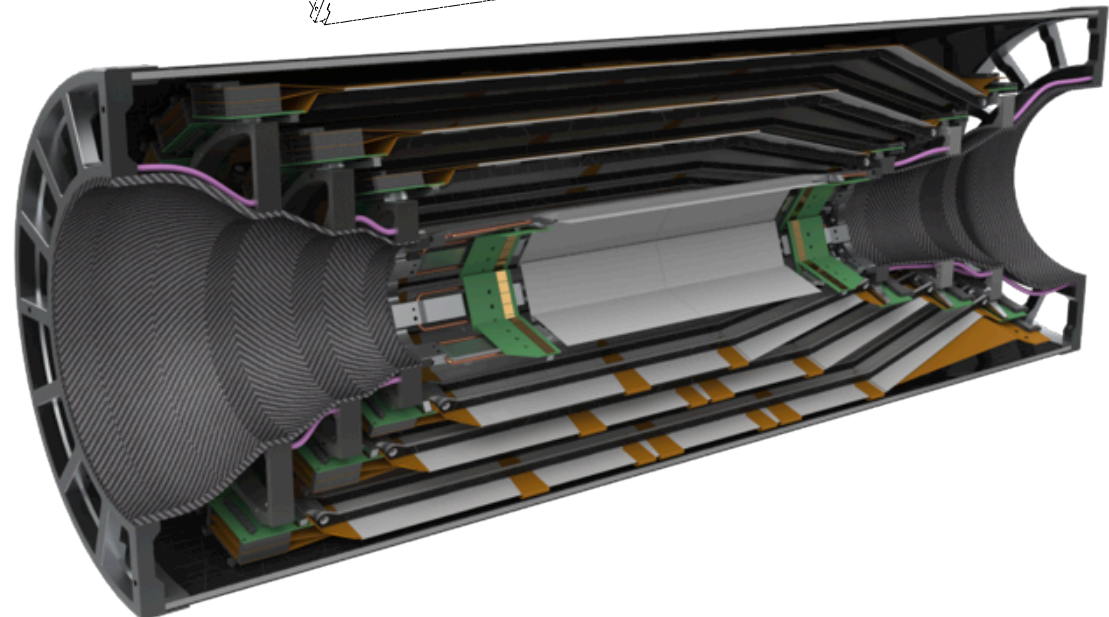
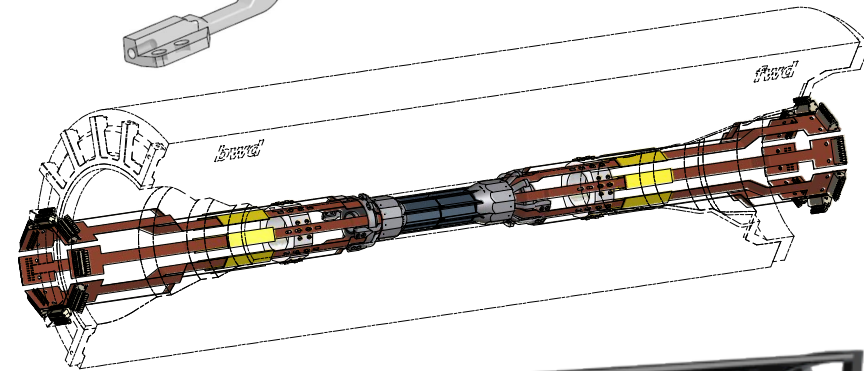
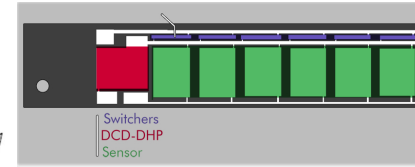
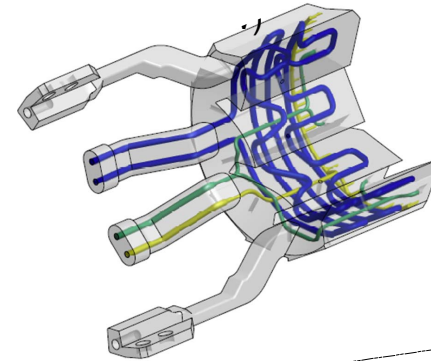


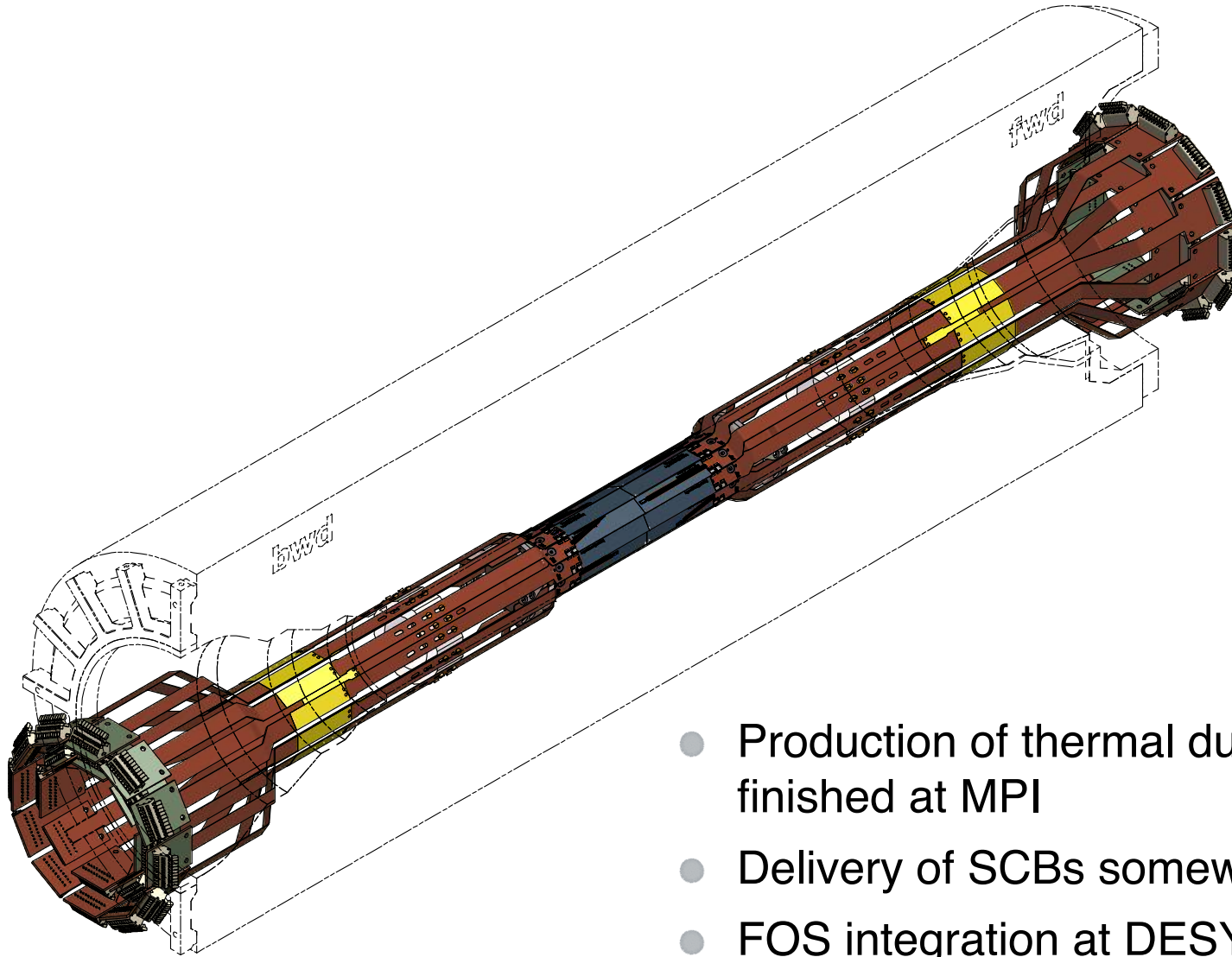
# Status of Thermal Mockup Preparation

# Steps Towards Realistic VXD Thermal Mockup

- PXD
  - Final design of backward and forward SCBs (MPI)
  - Thermal dummy sensors with final geometry (HLL)
  - Kaptonflex cables (simplified version for power lines) (MPI)
- SVD
  - CFRP support cone & outer cover (KEK)
  - SVD endrings (DESY)
  - SVD endmounts (KEK)
  - VXD endflange (Uni HH)
  - SVD thermal dummy ladders (DESY, HEPHY)
  - SVD cooling pipes (DESY)
- CDC inner structure (Uni HH)

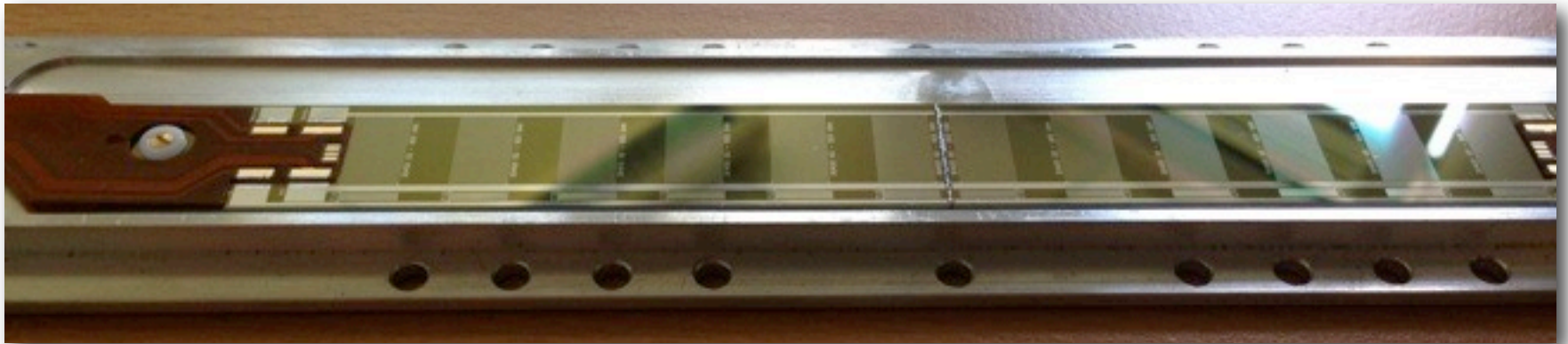


# Status of PXD Mockup



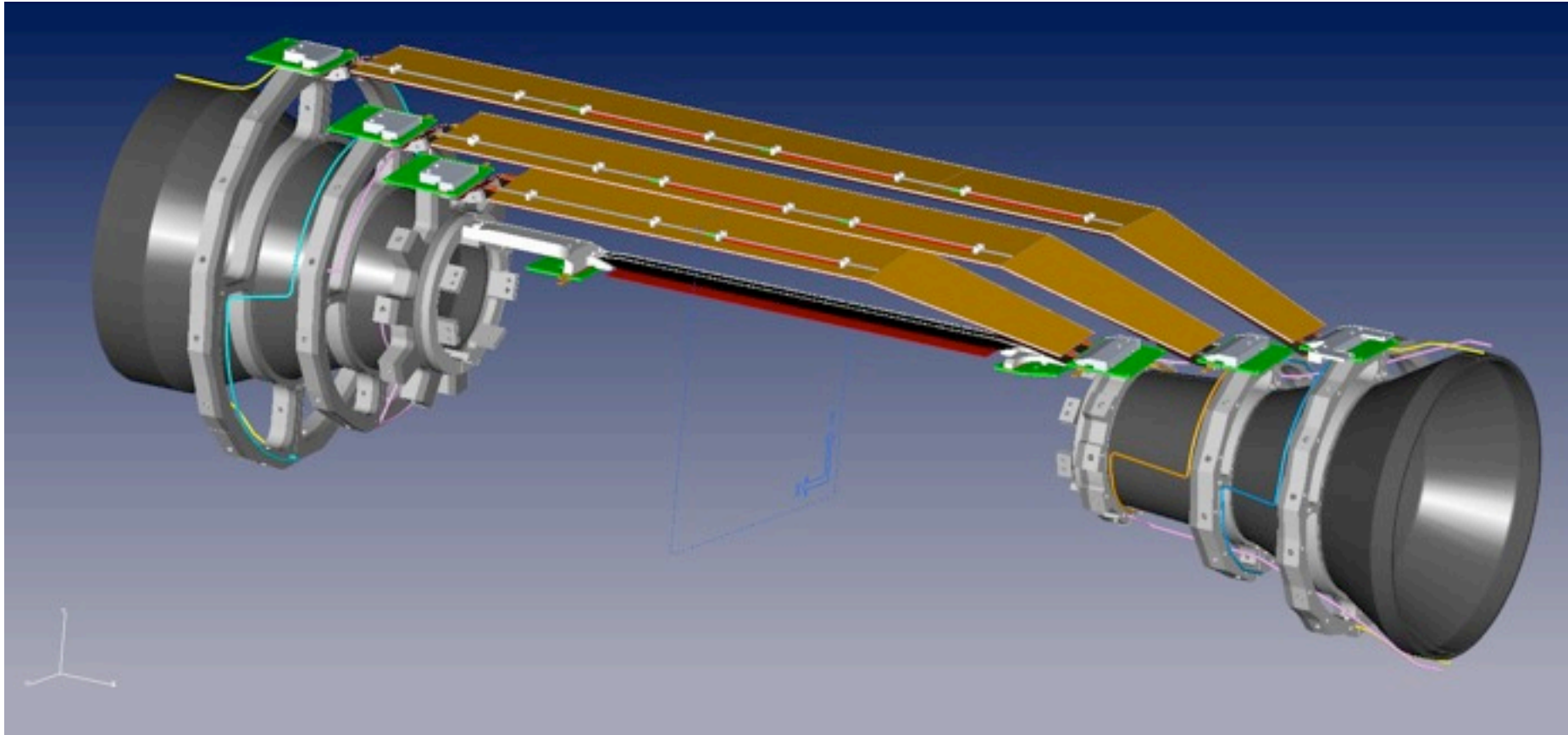
- Production of thermal dummy sensors finished at MPI
- Delivery of SCBs somewhat delayed
- FOS integration at DESY with help of IFCA (Ivan Vila et al.)

# First Thermal Dummy Ladder at DESY

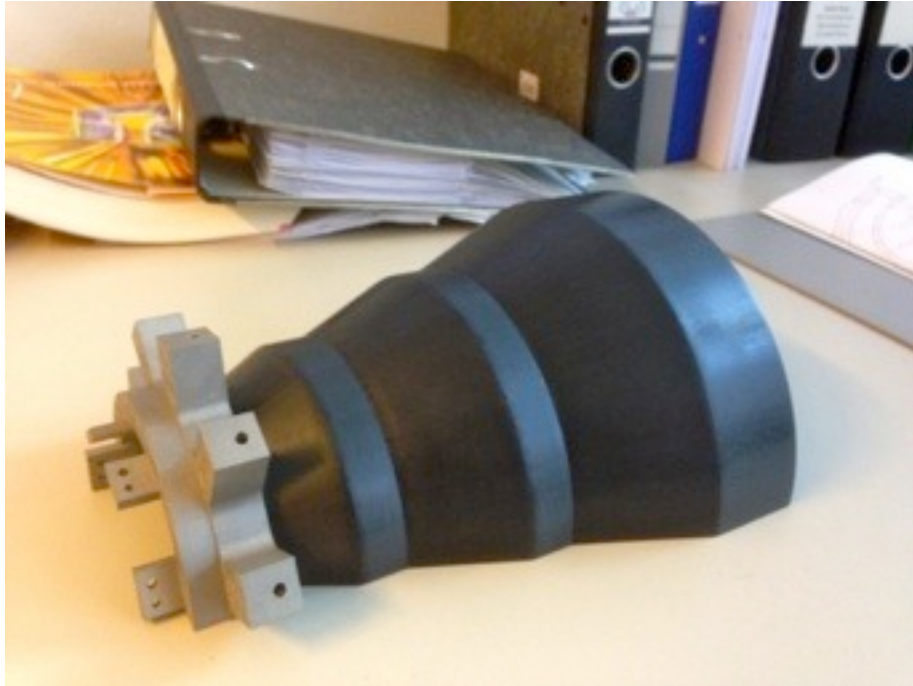


- Handling is quite delicate ...
  - Thermal mockup quite useful also for exercising PXD assembly
  - Al-dummies for thermal dummies under production at MPI
- Remaining dummy sensors will be delivered to DESY soon

# SVD Thermal Mockup Design

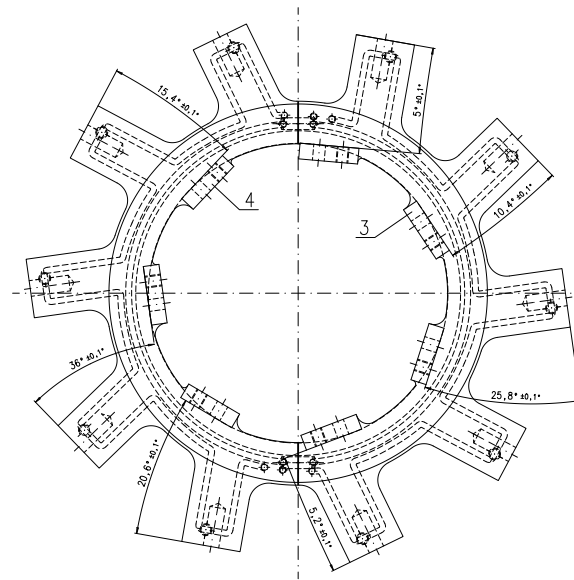
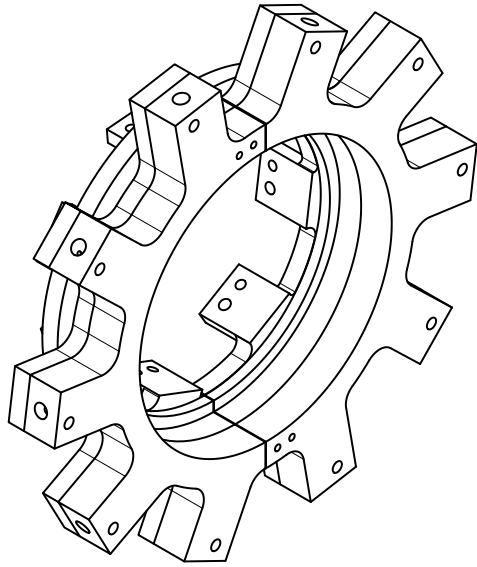


# Preparations of SVD Thermal Mockup



- CFRP support cones and outer cylinder arrived from KEK

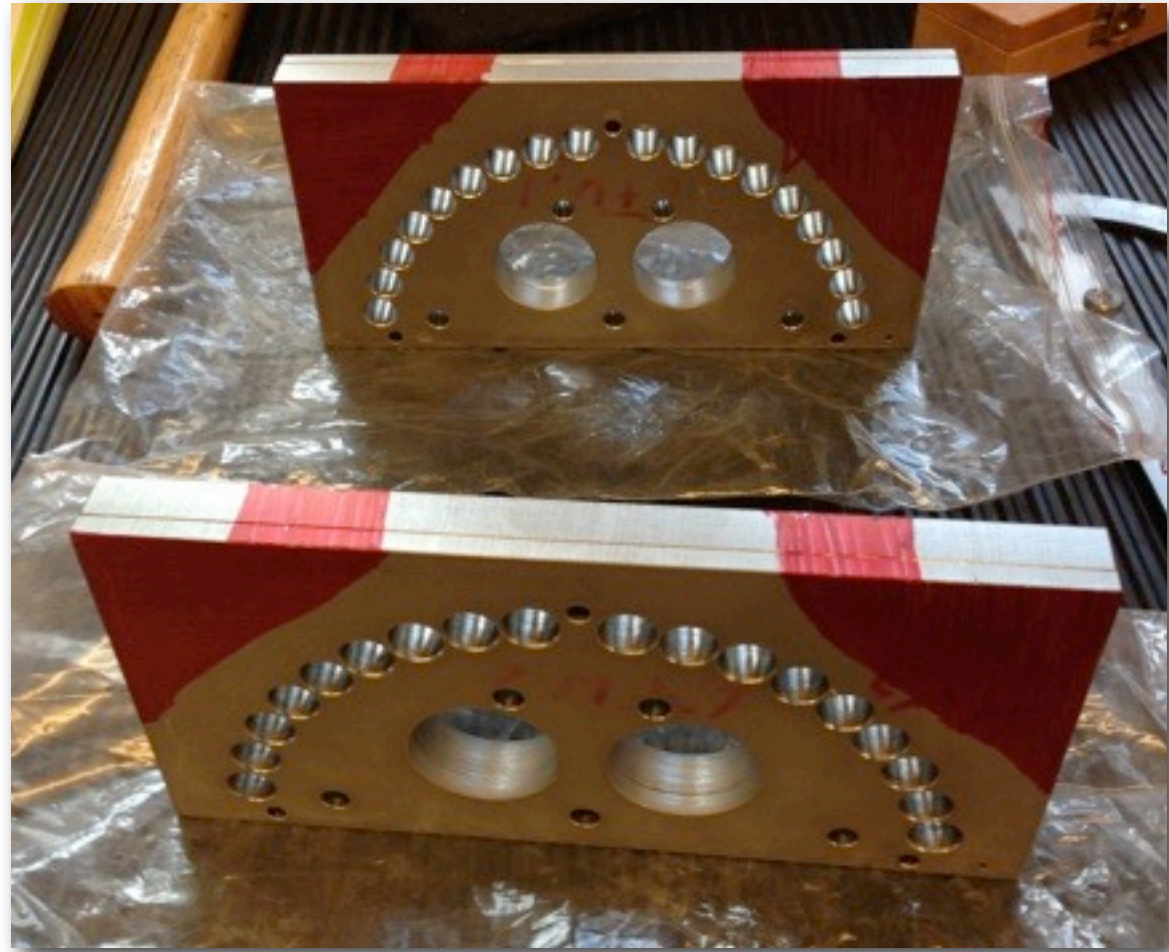
# SVD Endrings



- Diffusion welding at Jena was delayed because key person got seriously ill
- Parts arrived at DESY 2 weeks ago



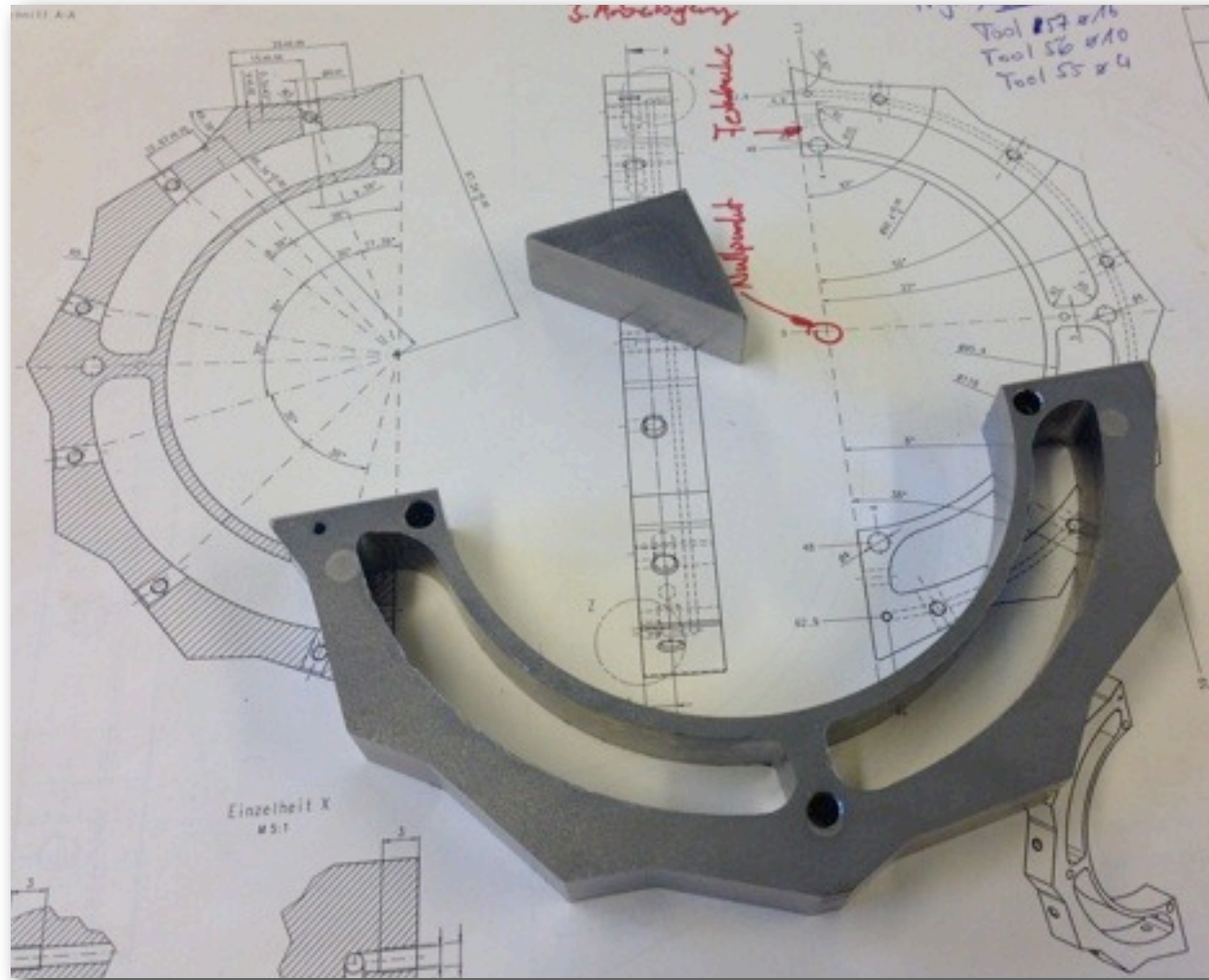
# Unmachined Parts after Diffusion Welding



- In order not to exceed maximum pressure needed to reduce surface of plates for L6 by drilling holes ...



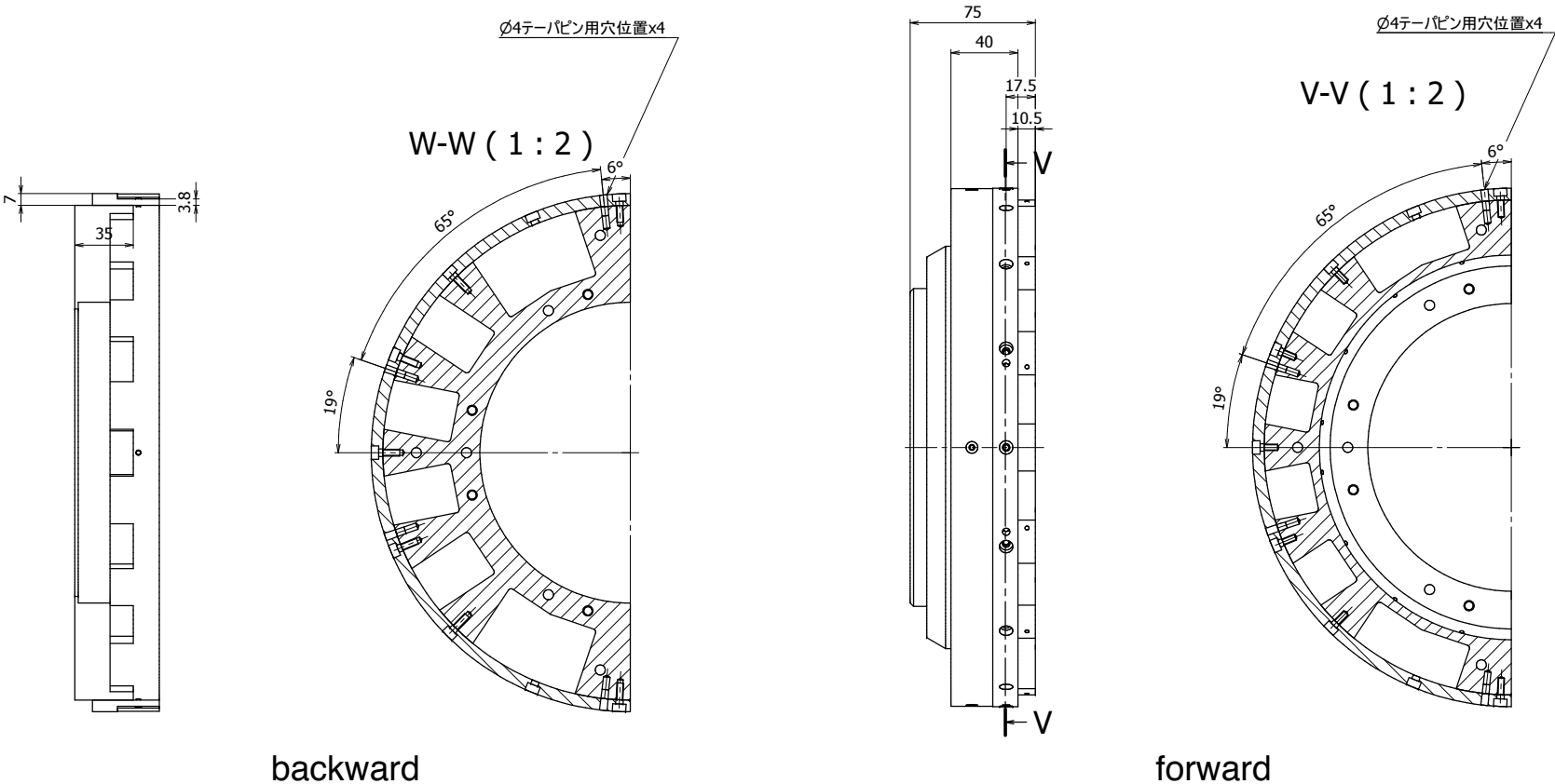
# Machined L5 Endring FWD



- Next step: drill precision holes for Kokeshi pins

# Endflange

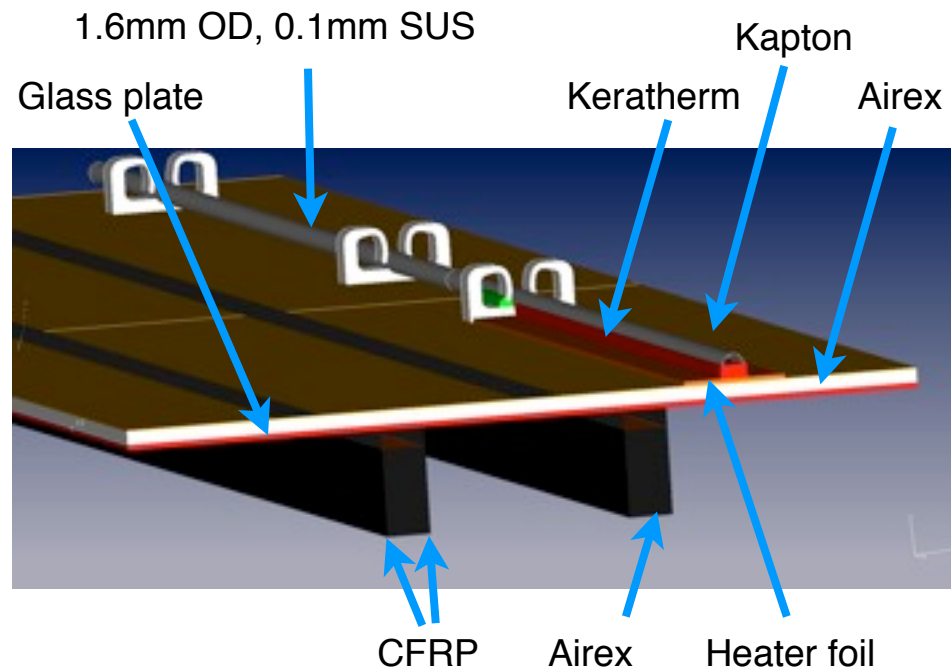
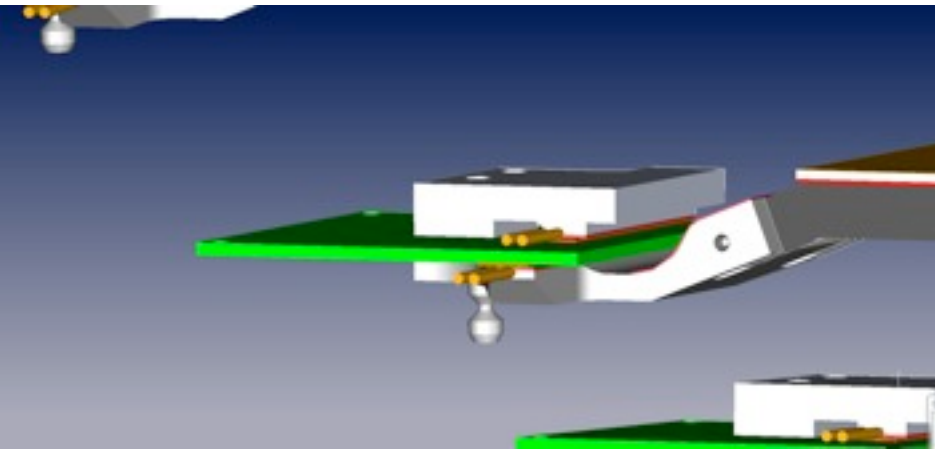
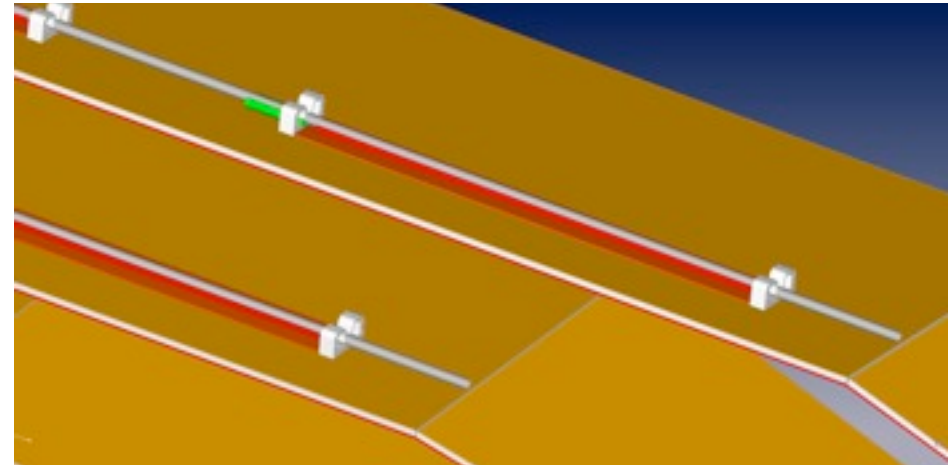
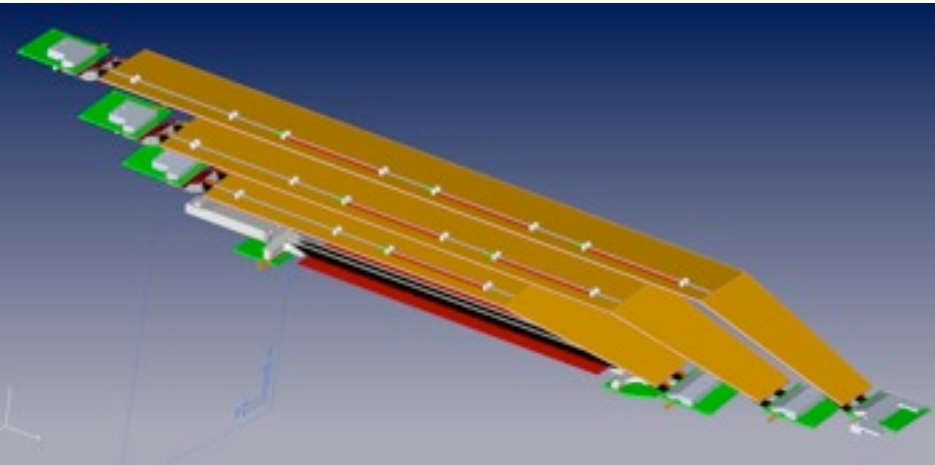
- End flanges being produced by Hamburg University



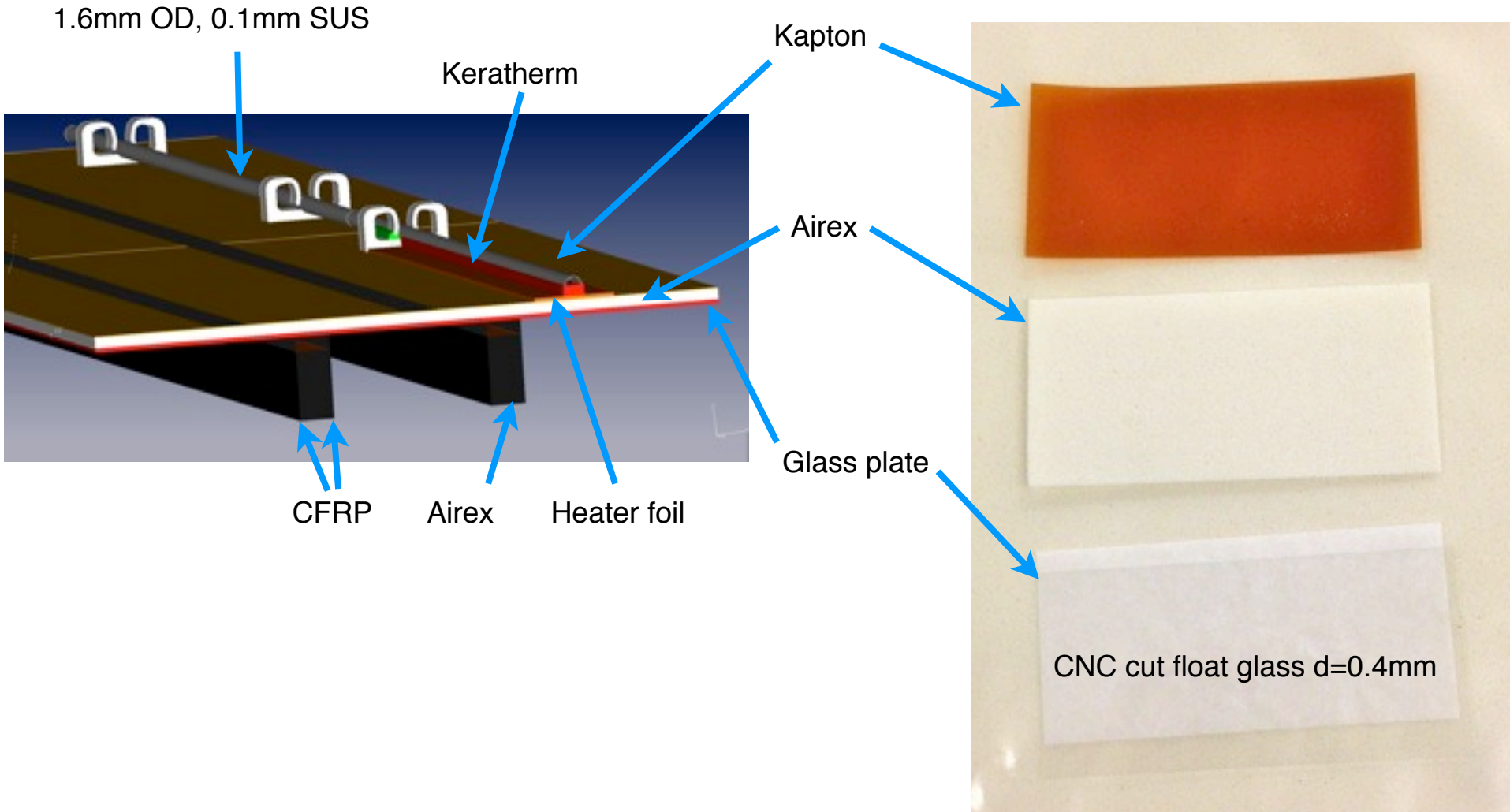
backward

forward

# SVD Thermal Mockup Design

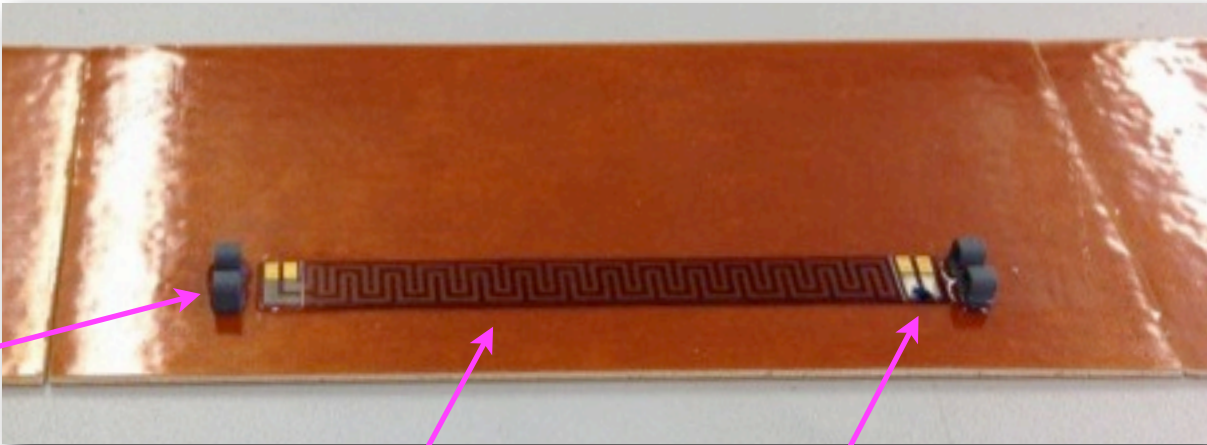


# Status of SVD Dummy Ladder Components



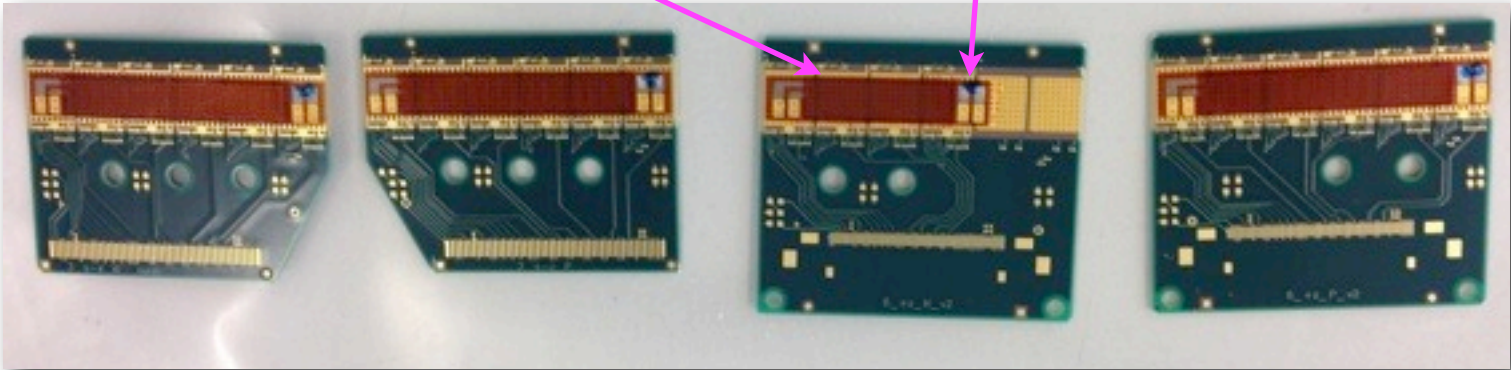
# Heater Foils Glued to Sensors and PCBs

L6

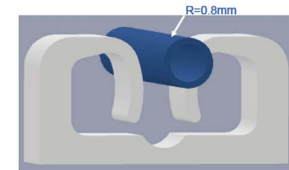
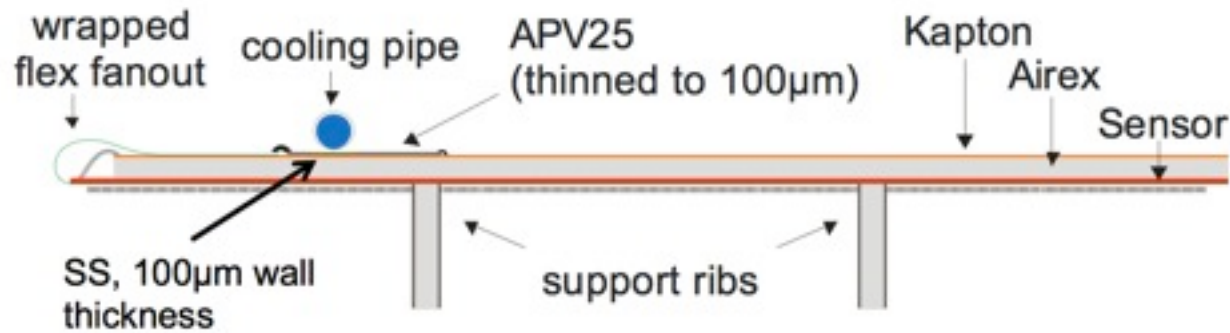


Clips

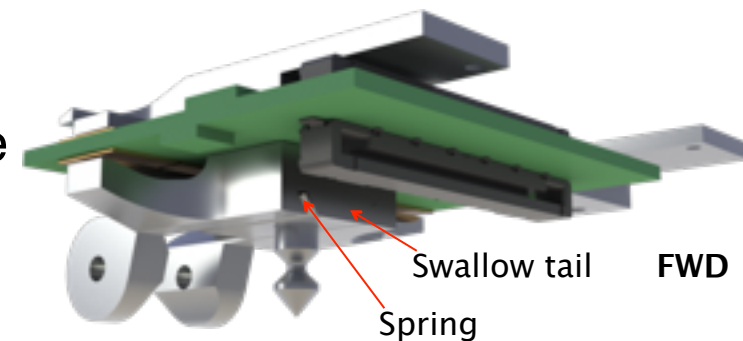
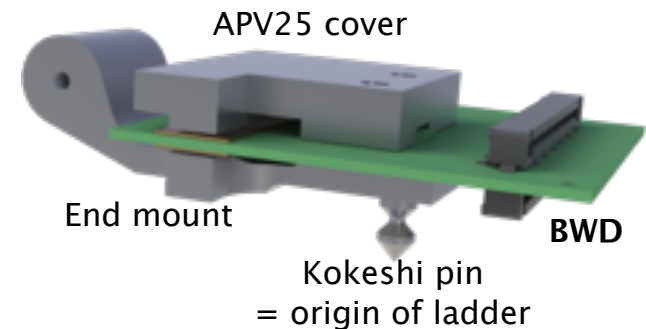
Heater foil with integrated PT100



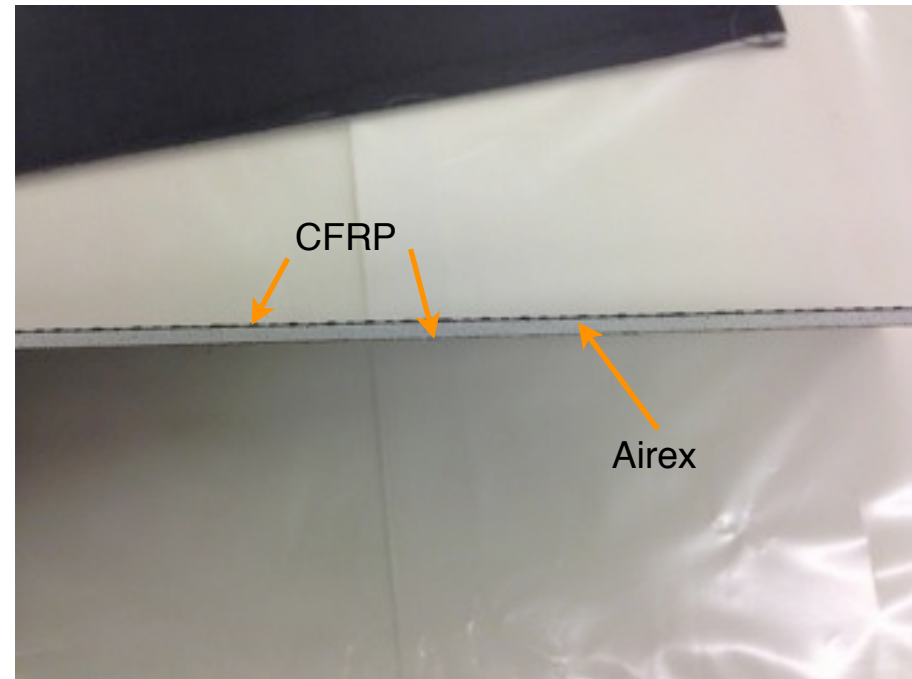
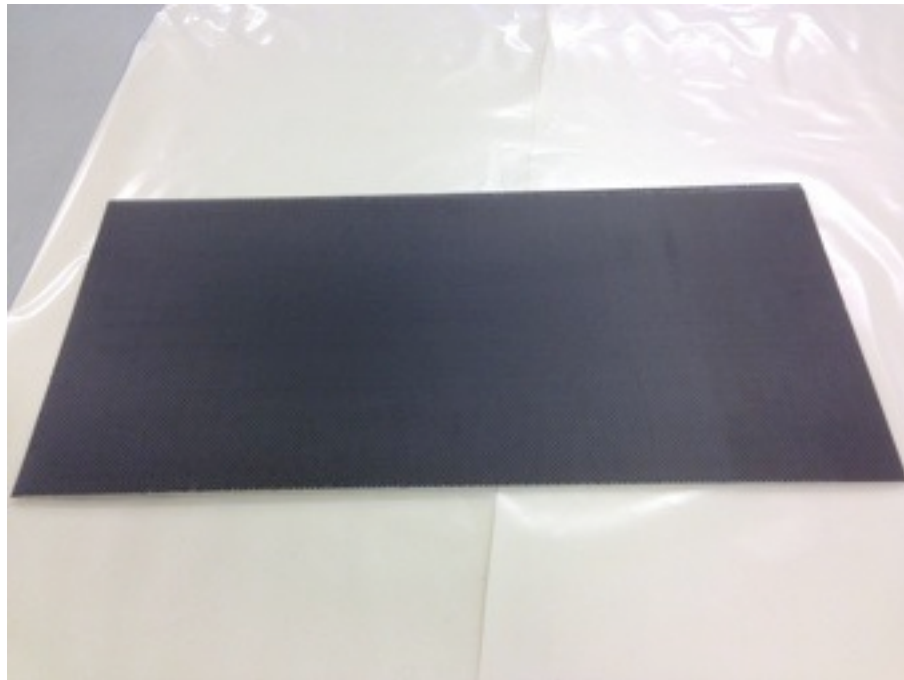
# SVD Origami Cooling and End Mounts



- For realistic mockup need to simulate heat transport
  - from hybrids through end mounts to end rings
  - from Origami APV through Keratherm to cooling pipes
- Before dummy ladder assembly need to glue CFRP ribs to end mounts



# CFRP Sandwich for Support Ribs



- New sheets of Airex and CFRP prepregs have been laminated
- Water jet cutting process established
- Next step cut out truss-like ribs

# Status of MARCO

- MARCO is operational
- Recent cleaning did not reveal further degradation of pump heads
  - decided to stay for the time being with existing Gather pumps
    - ▶ LEWA pump not yet ordered
      - high costs of ~50k€
      - long downtime and unclear if we get software support from CERN
- Presently the system is used for test measurements with different tube geometries (transfer lines, capillaries)
  - Bachelor student Lars Hübner just started

