

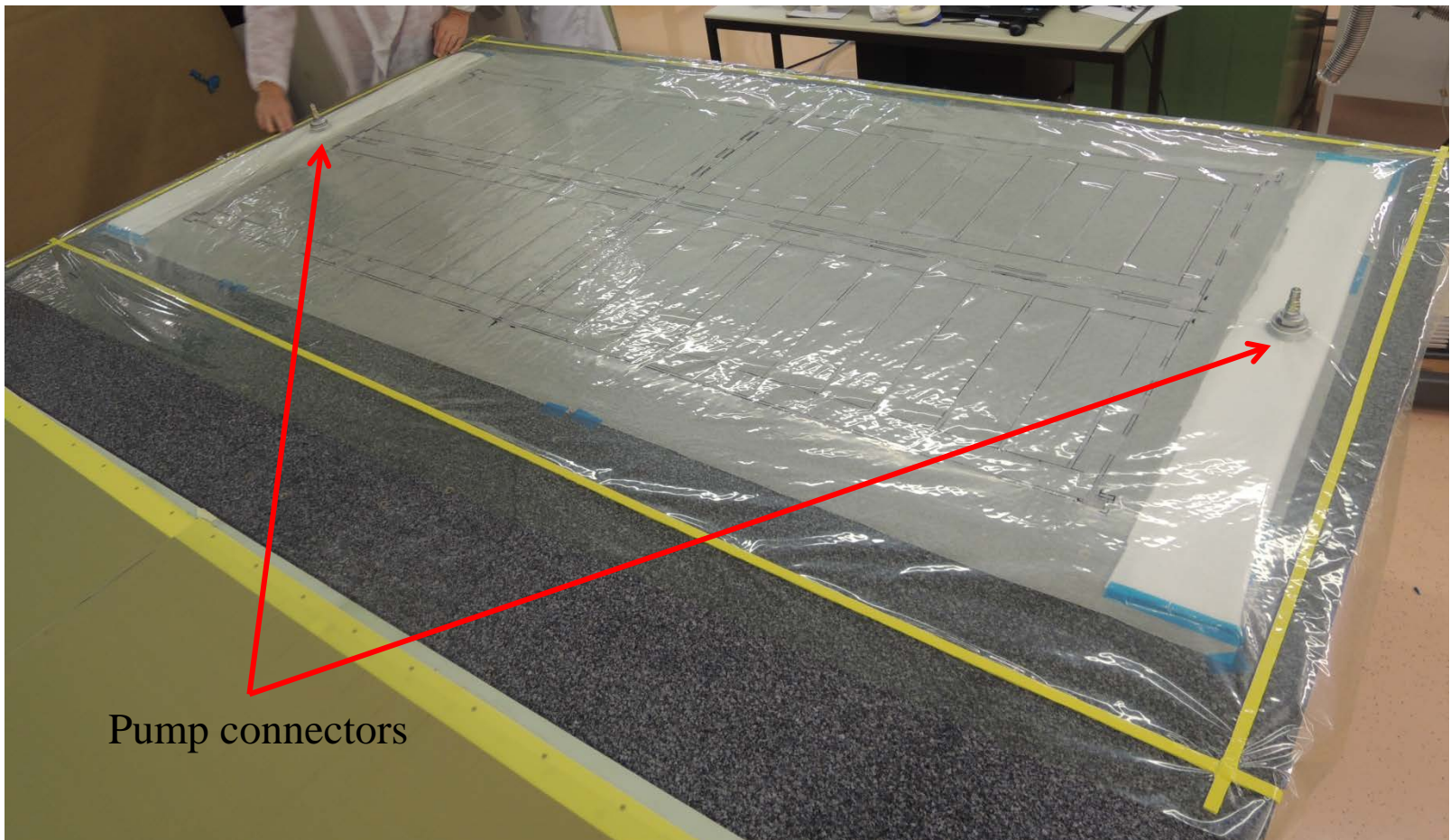
News from the lab

Large size Micromegas chambers

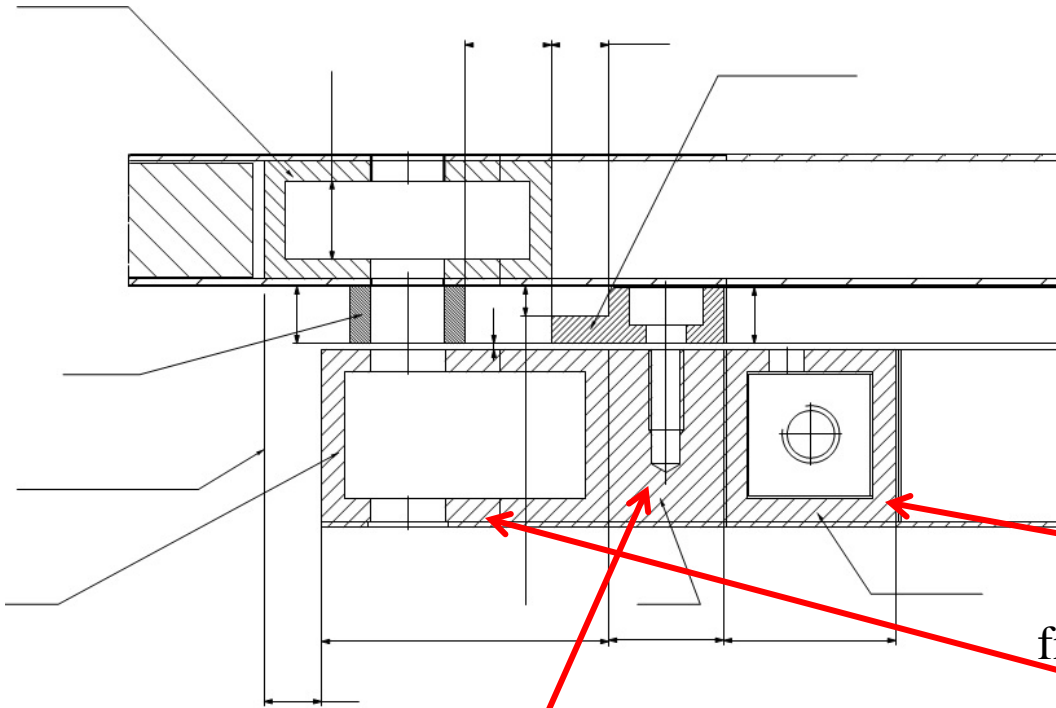
Givi Sekhniadze / Joerg Wotschack

Vacuum system

- On the 2.8 x 2.8 m² granite table was located thin plastic mesh for pressure distribution
- Covered with 175 μm thick mylar foil with $\varnothing 3$ mm holes



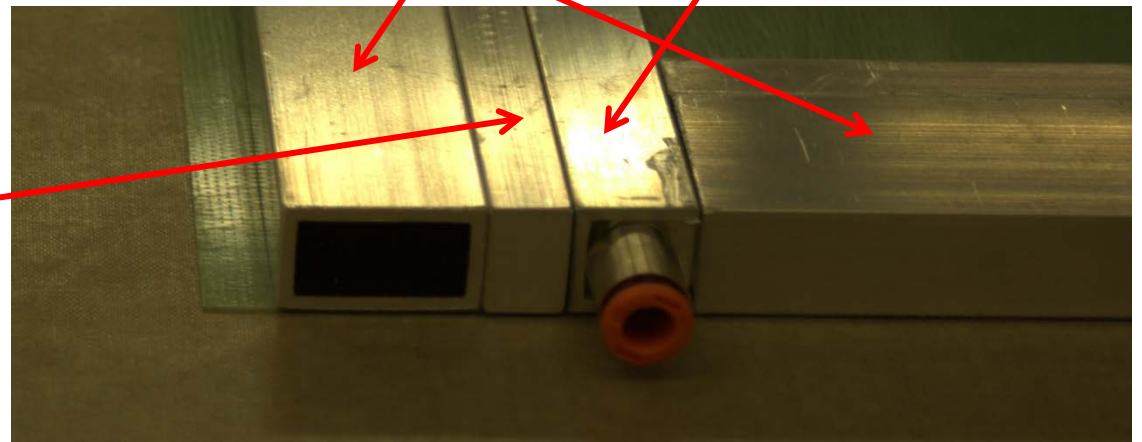
L3 – Sketch-up



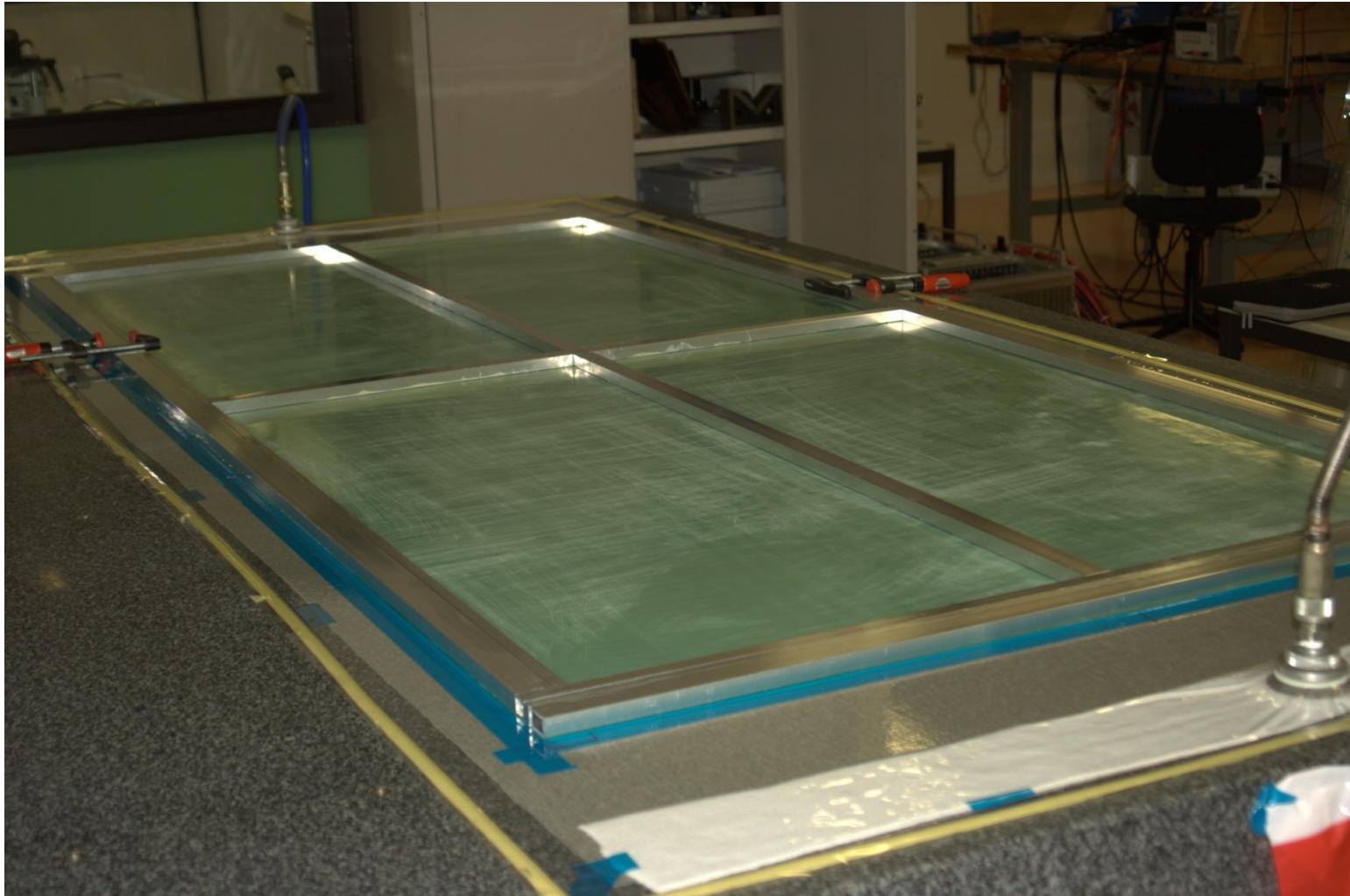
Gas distribution

frames

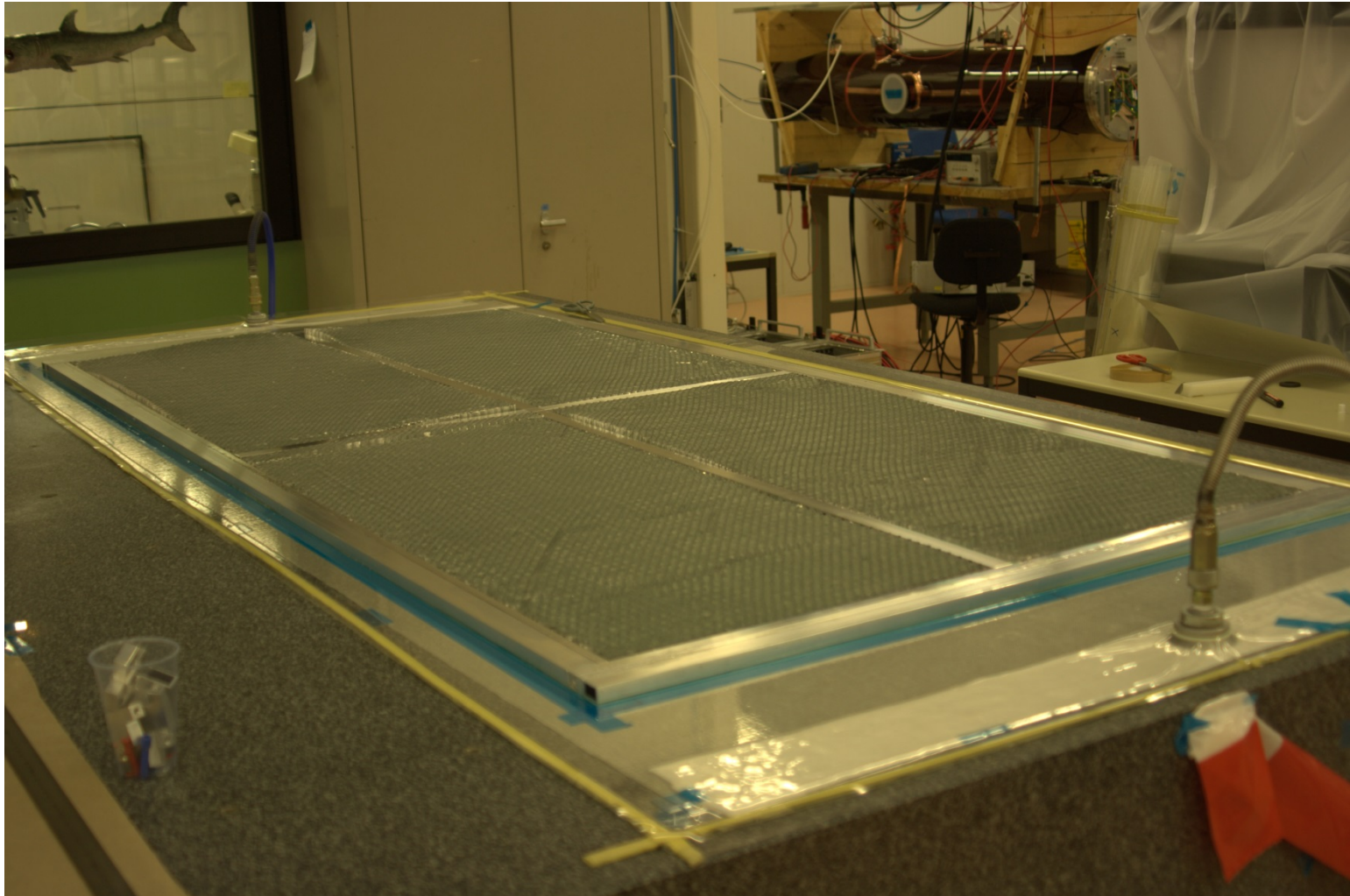
Mesh frame support



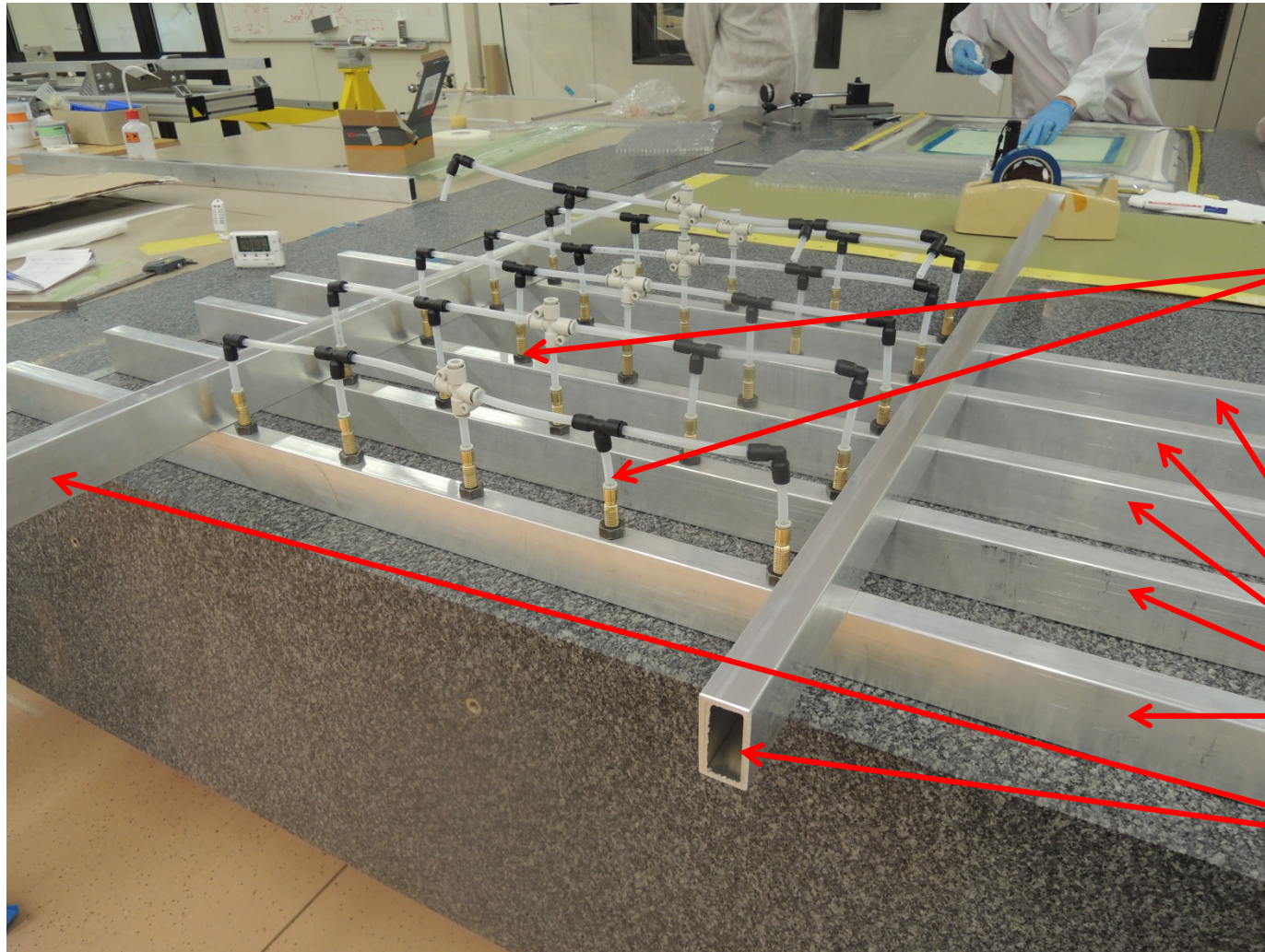
Drift panel preparation – first skin



Drift panel preparation – honeycomb



Drift panel preparation – stiff-back



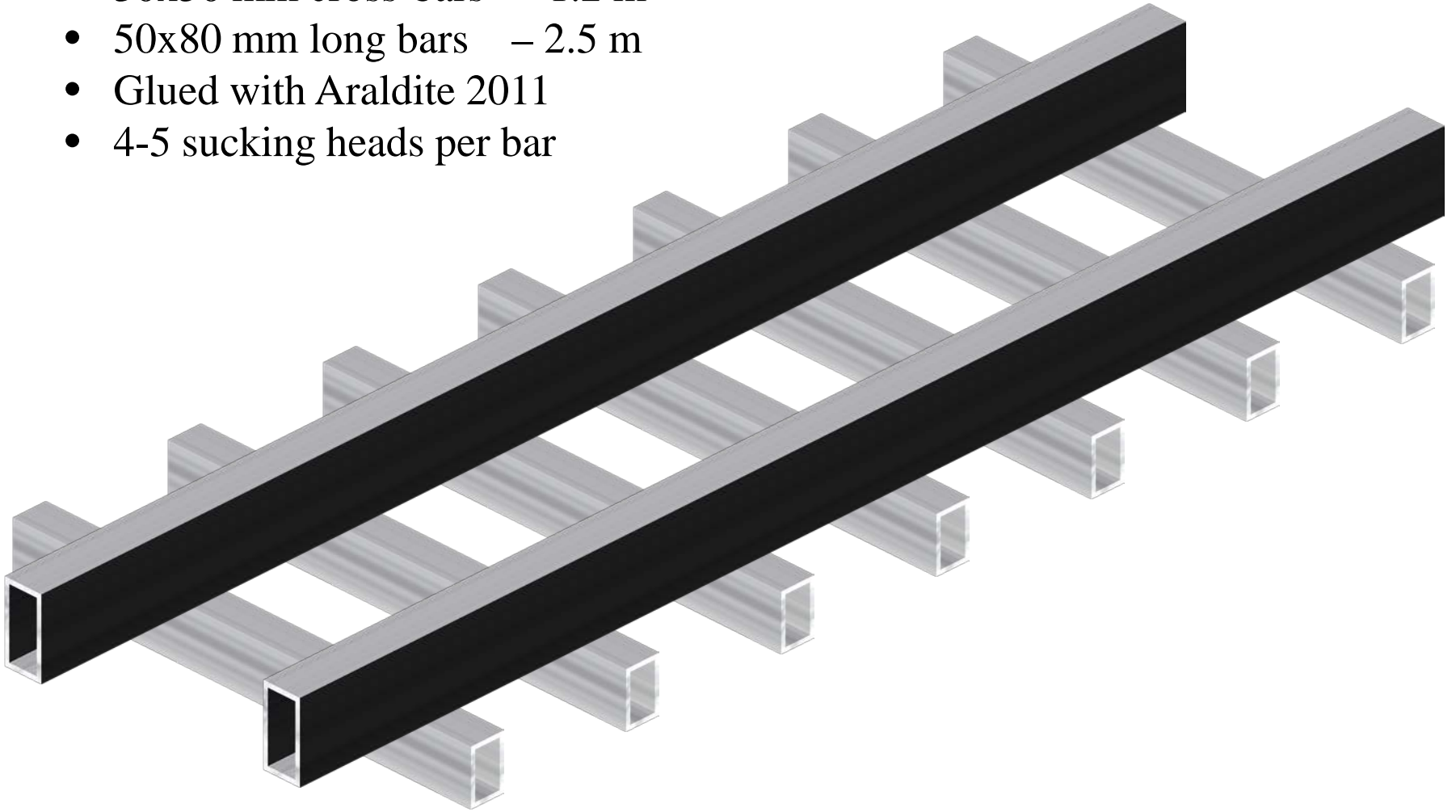
Sucking heads

Cross-bars

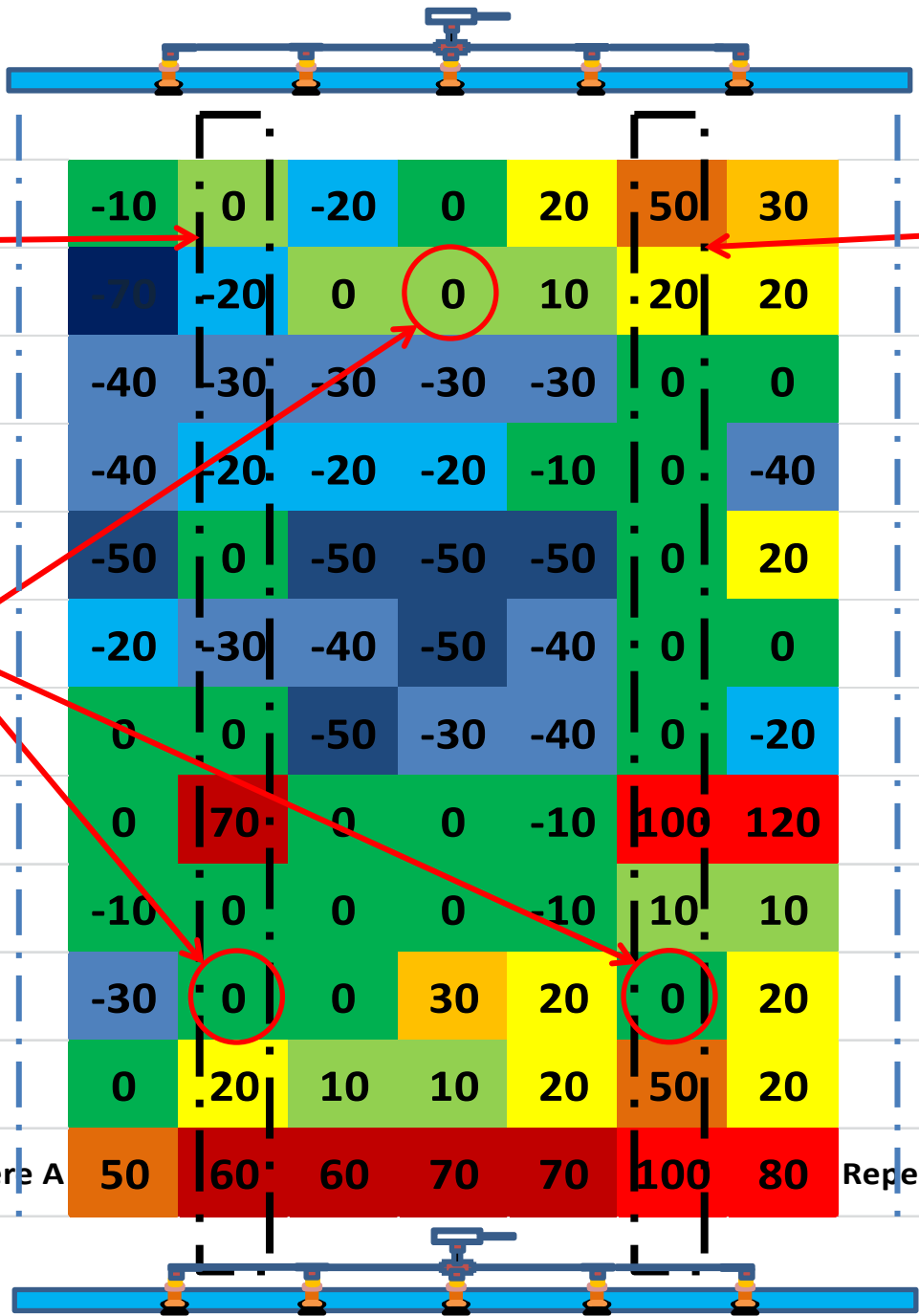
Long bars

Drift panel preparation – stiff-back

- 30x50 mm cross-bars – 1.2 m
- 50x80 mm long bars – 2.5 m
- Glued with Araldite 2011
- 4-5 sucking heads per bar



12 rectified bars with
4 or 5 suction cup



Long bars

Stiff bars

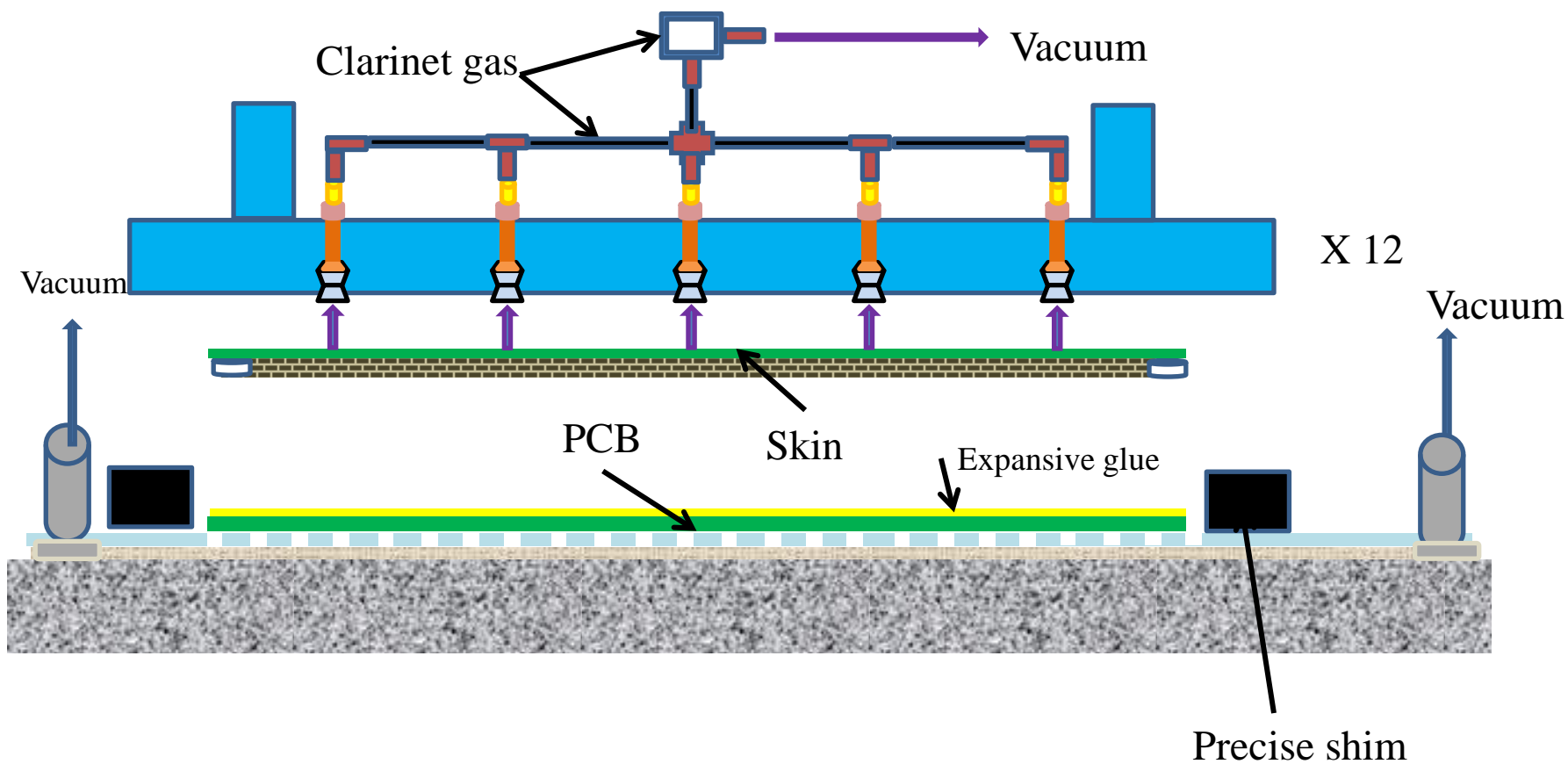
Metrologic Shims

Planarity
(in microns)

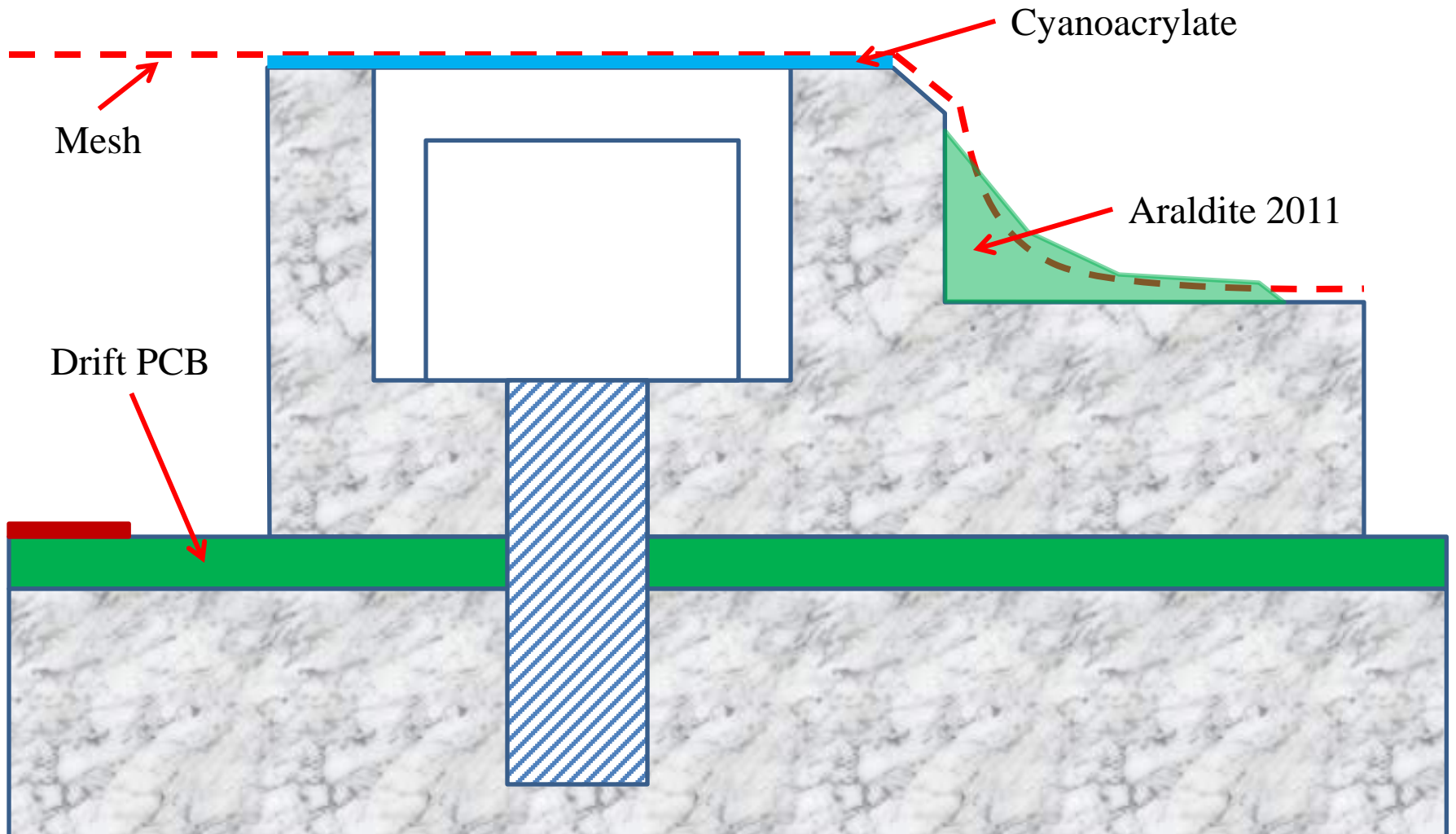
Repere A

Repere B

Using Skin suction Tool

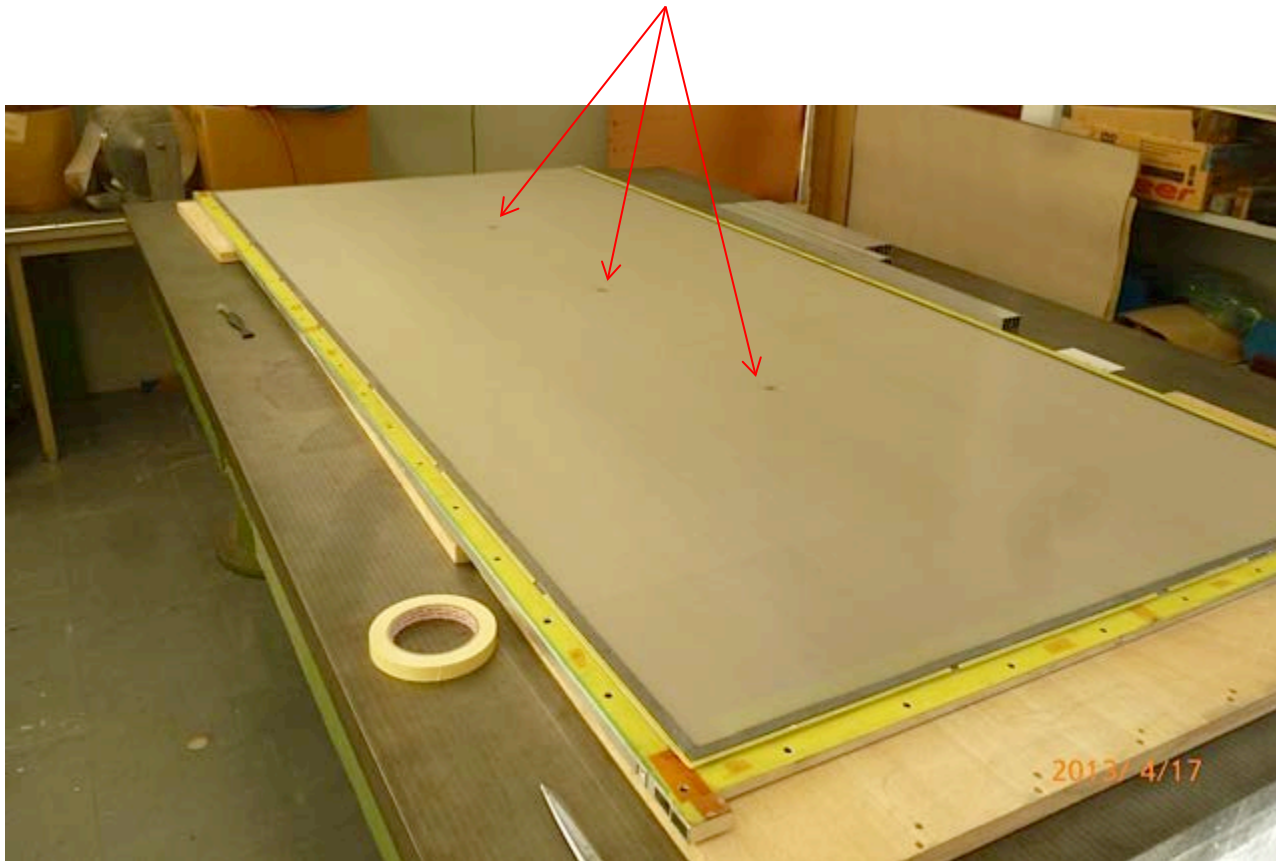


Drift panel preparation – Mesh frame

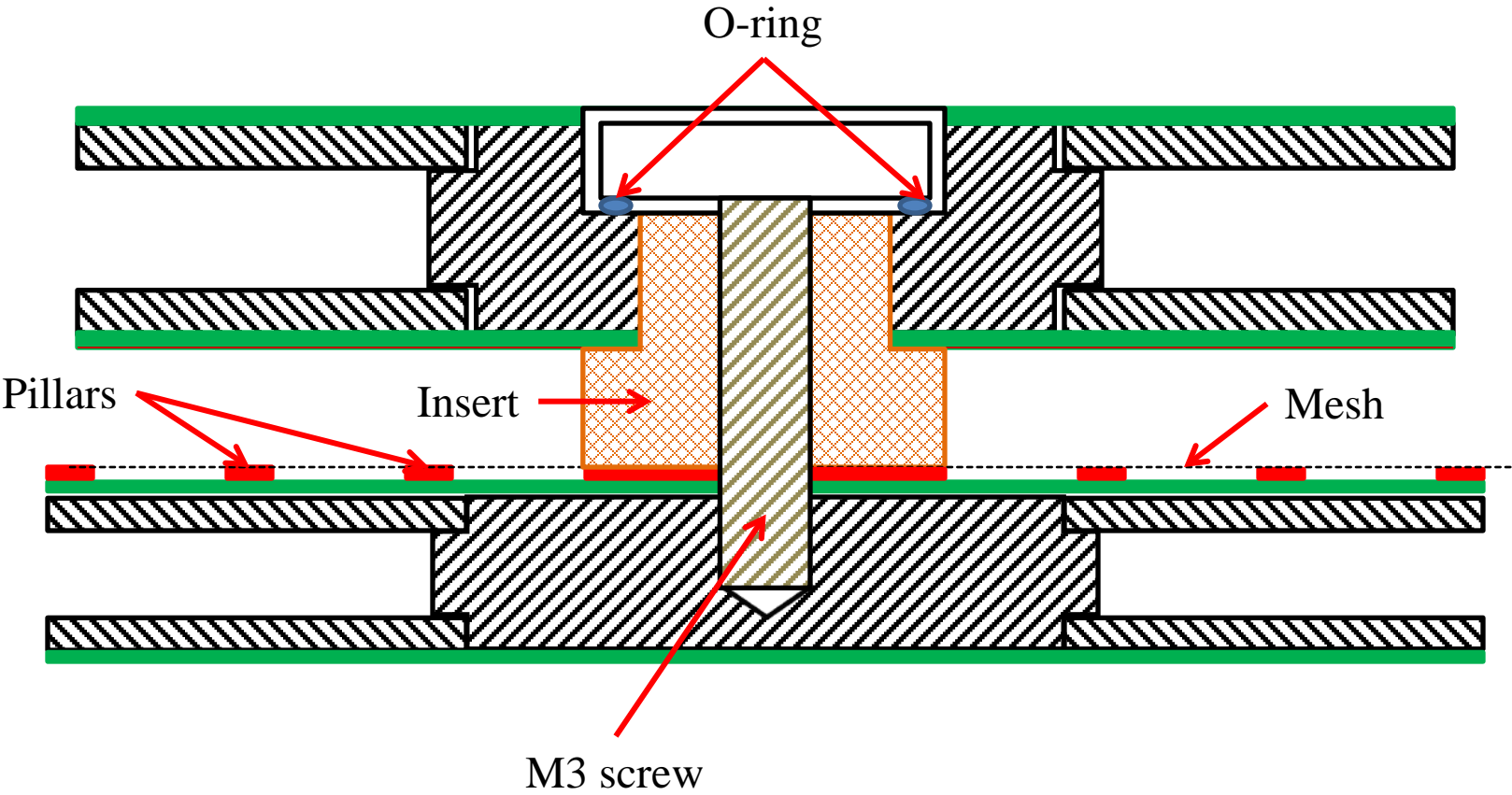


Drift panel preparation – Mesh

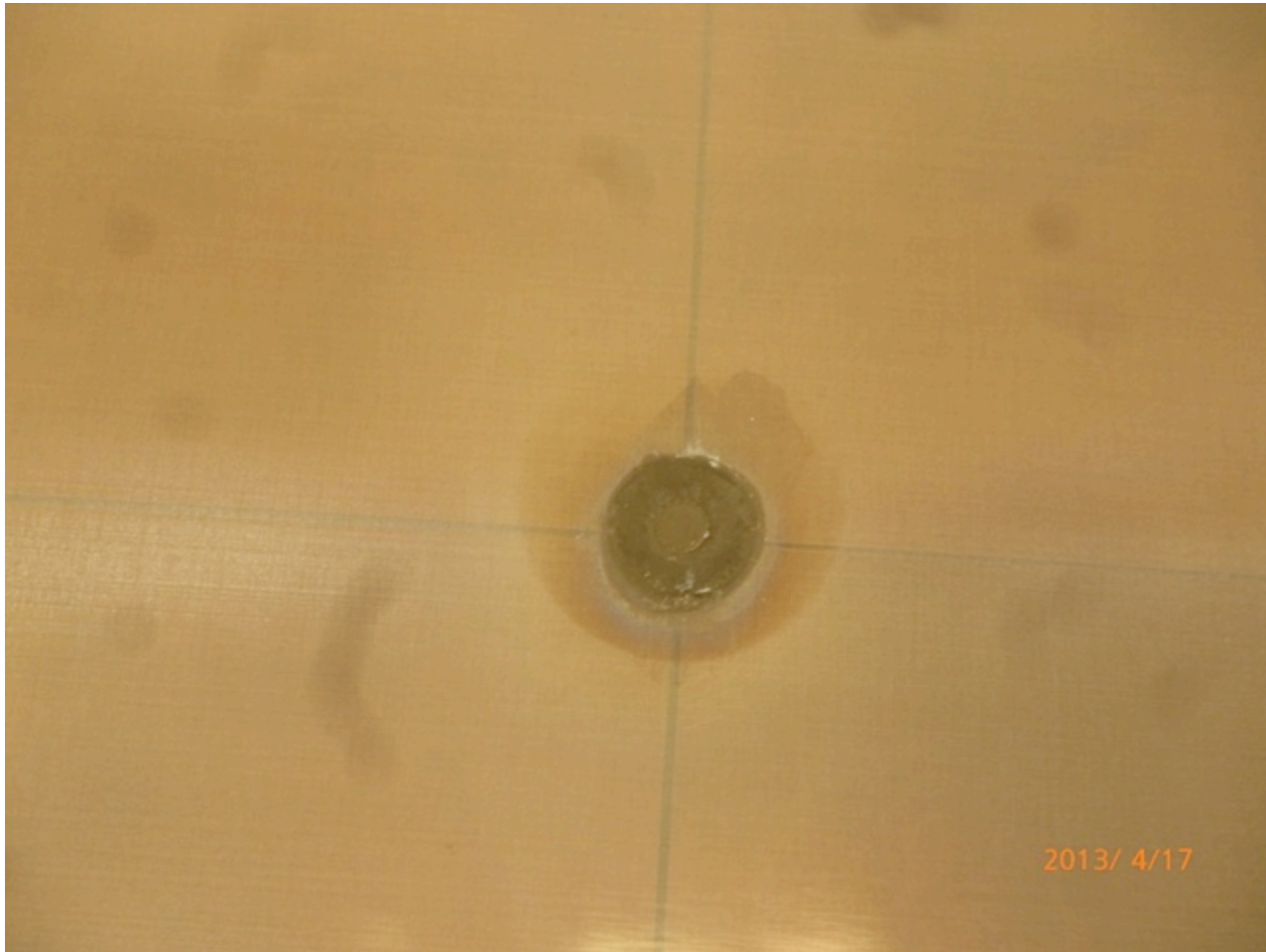
- 5 mm thick Aluminum frame mounted on the panel
- Mesh stretched and glued on the frame
- 3 special inserts for drift/read-out panel interconnection



Drift panel preparation – Inserts (1)



Drift panel preparation – Inserts (2)

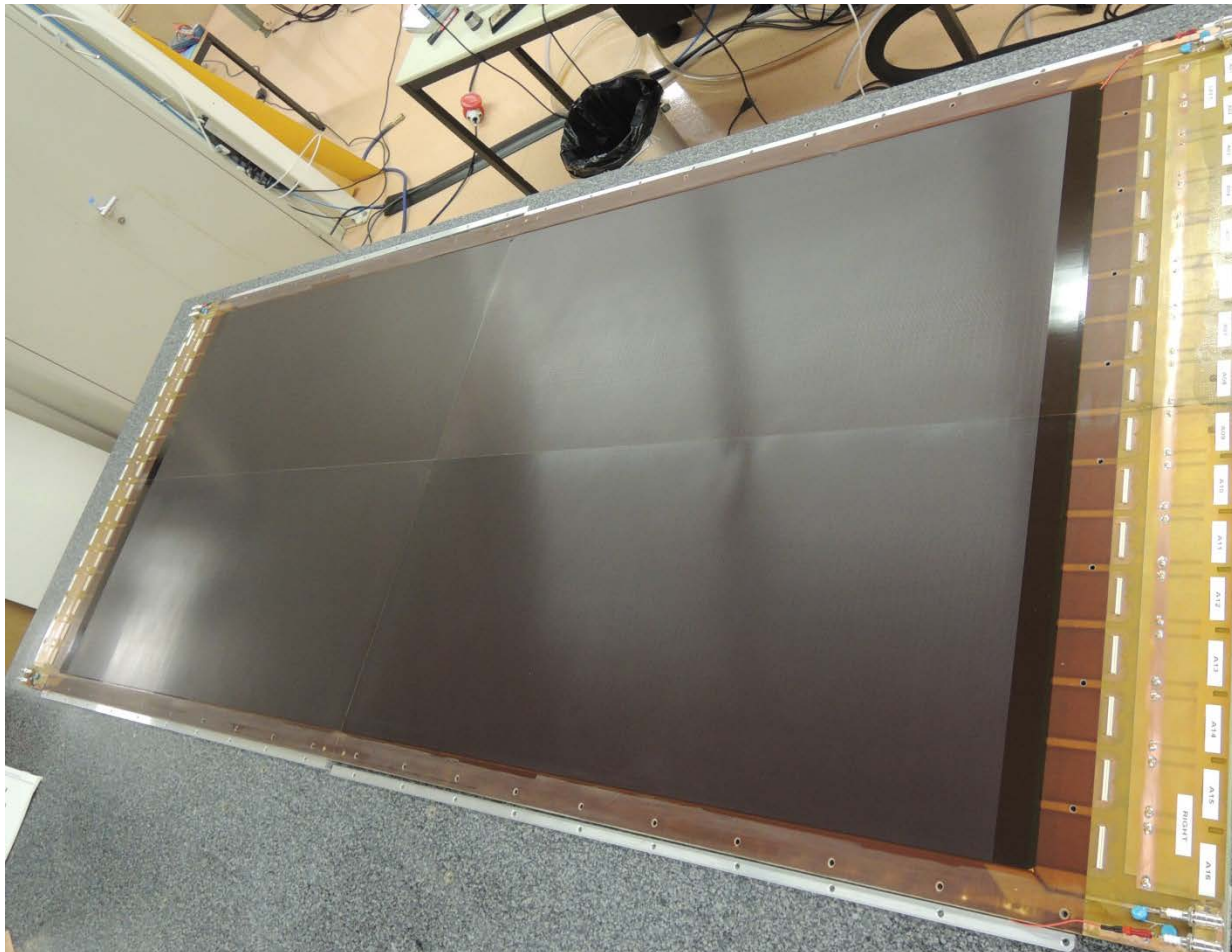


Drift panel preparation – Inserts (3)



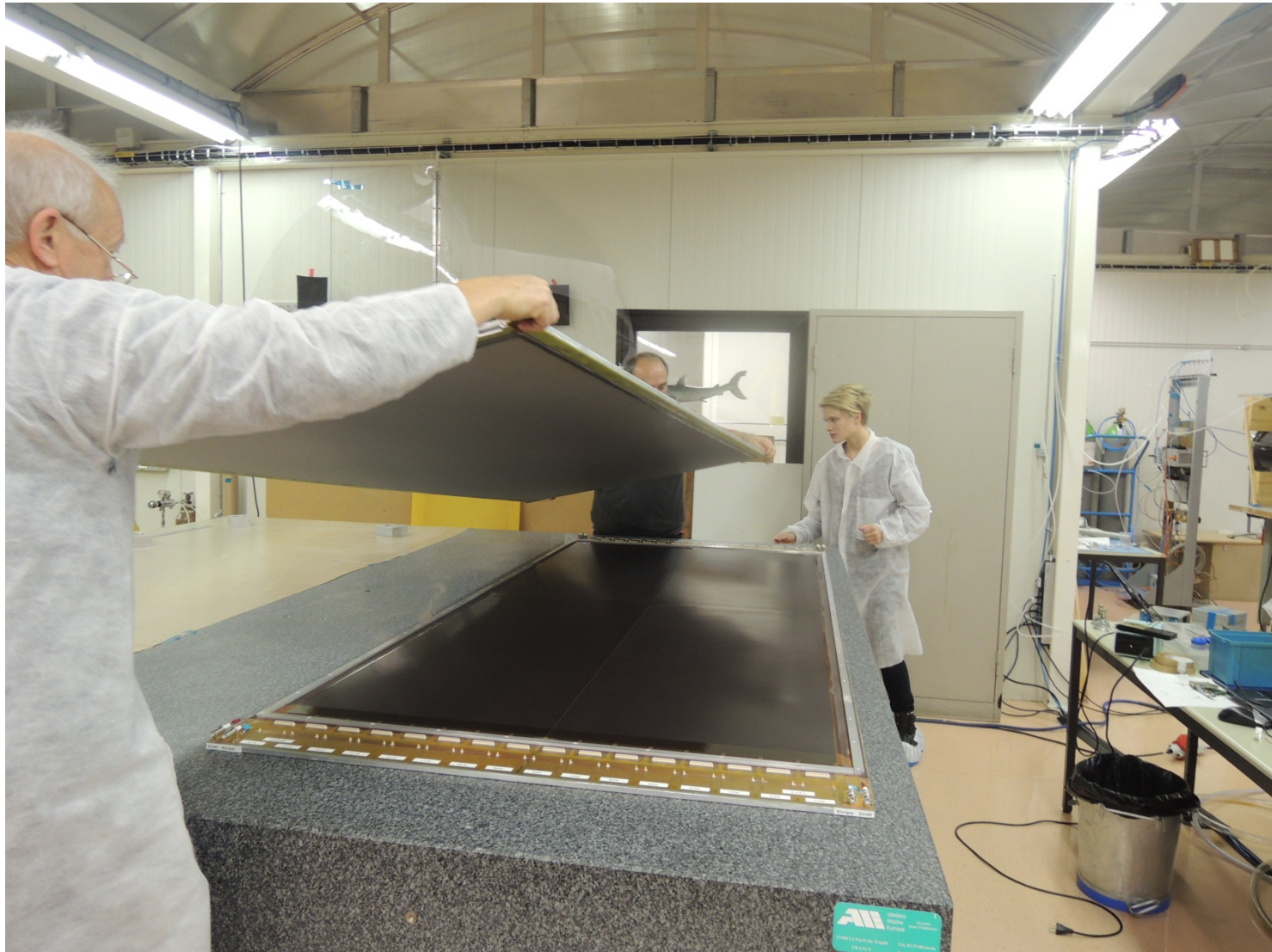
Read-out panel

- 0.5 mm thick FR4 external skin
- 10 mm thick Aluminum honeycomb
- External Aluminum frames



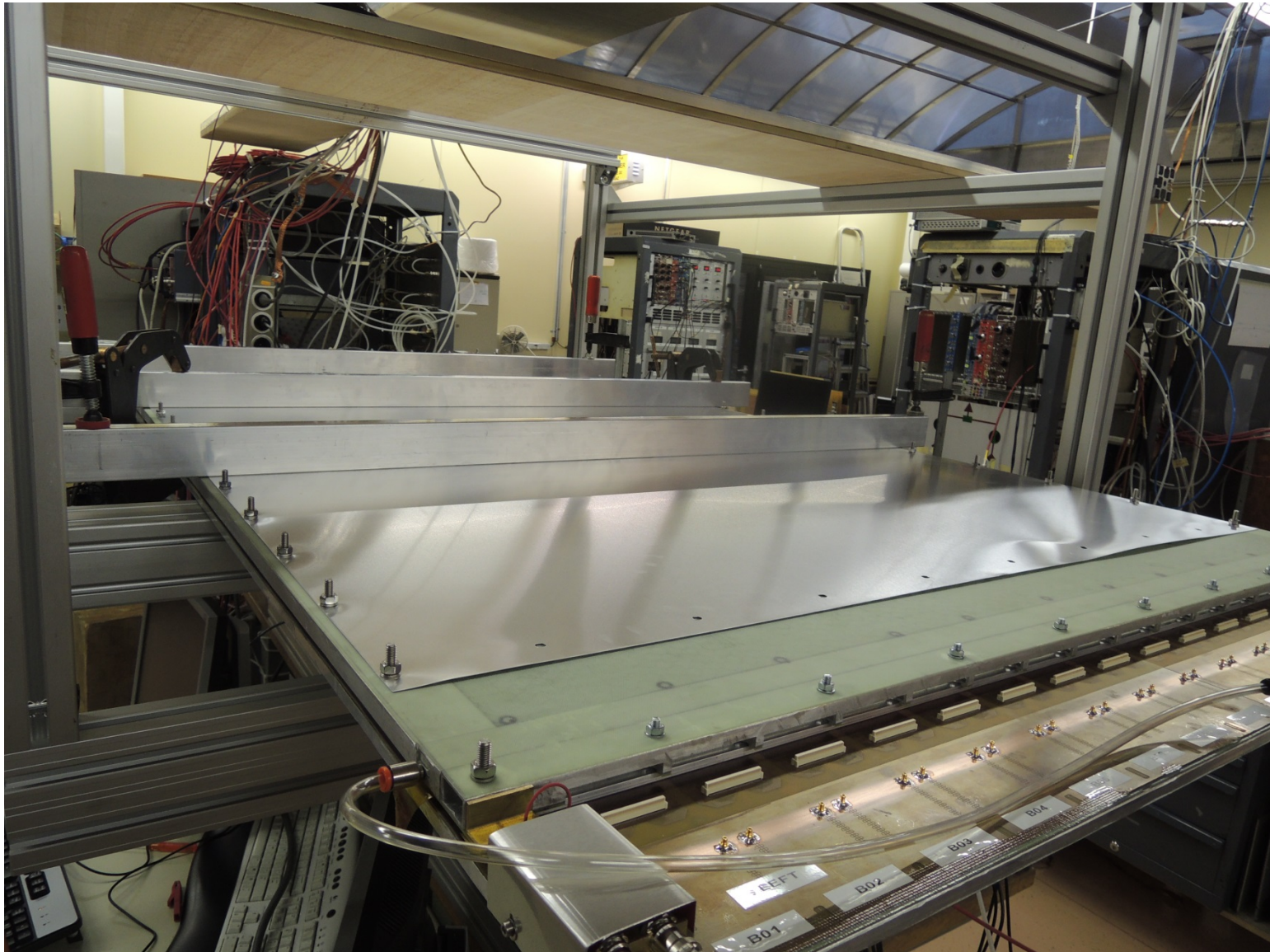
Saclay, 18-19 April 2013

Chamber assembling



Saclay, 18-19 April 2013

Chamber assembling



Problems

- Due to the deformation of the stiff-back structure the distance between the PCB and the “half” panel was not correctly defined and problems appeared with the gluing. Along of the external Al frame and in some small areas also in the central parts of the PCB the glue is not attached correctly
- We found gas leak in the drift panel of L2 chamber. In the new drift panels the gas leak problem has been solved. The drift “old” panel of the L2 chamber will be replaced next week