

Polymer Laboratory Weekly Meeting Summary – 11.07.2024

➤ **General information:**

- Roland on holidays week 12th to 19th of July.
- Christian's visit to Apium in Germany (15th to 17th of July). High performance (PEEK, etc...) 3D printers up to 500 °C mainly used for medical applications. Possibility to buy a 3D printer for 30k€ instead of 80k€ because the company will close. The maintenance will be provided by another company. For the spare parts, they can provide the drawings but not the parts. This 3D printing machine has a patented heating technology using an infrared heater.
- BBQ Polab on 18/07/2024.

➤ **Operation & Services:**

- SMC 108 to be impregnated on Friday 12th of July with POLAB mix.
- First 10 stack impregnation with Polarit A55 wax to come soon.
- Silicone rods (RTV-4250S) for LMF section being produced (160 in total).
- Casting of superconducting LINK cable slices.
- HSI heads for BE 24 parts produced out of 54.
- 6000 3D printer still out of order. The issue probably comes from the power supply.
- Lemam tech will be contacted for support with the Tech cluster 3D printer.
- 3D printing:
 - Layer jump produced by Ahmed with the filament 3D printer Bambulab.
 - 4 clamp shells in Accura 25 for TE VSC.
- Prusa 3D printers will be received soon.
- 60 parts of boxes filled of Araldite F + Dolomie + red dye for SY RF.
- BORIS tube: standby.

➤ **Projects (R&D):**

- Thermal cycles in liquid nitrogen of HV wires encapsulated with a 2.5% bending strain will be performed the 12th of July.
- Ageing of PU jacks in progress, chemical compatibility with new greases to follow. In addition, tensile samples will be added to the study to also monitor the modulus, stress and strain at break during the ageing.
- DMA and DSC analysis for study on post-curing of epoxy in wet winding process for ITER completed. Three points bending test to follow.
- Puncture resistance tests for novel quench heater polymer foils.
- Tensile tests on foils with different orientations related to sheet orientation to check for possible anisotropy.
- DC breakdown tests of polymer (Polyimide/PEEK) and composite (CTD101K+Desized S2-Glass) materials in liquid nitrogen.
- Dielectric spectroscopy analyses of laminates with desized fibre reinforcement.