



COMMANTECH

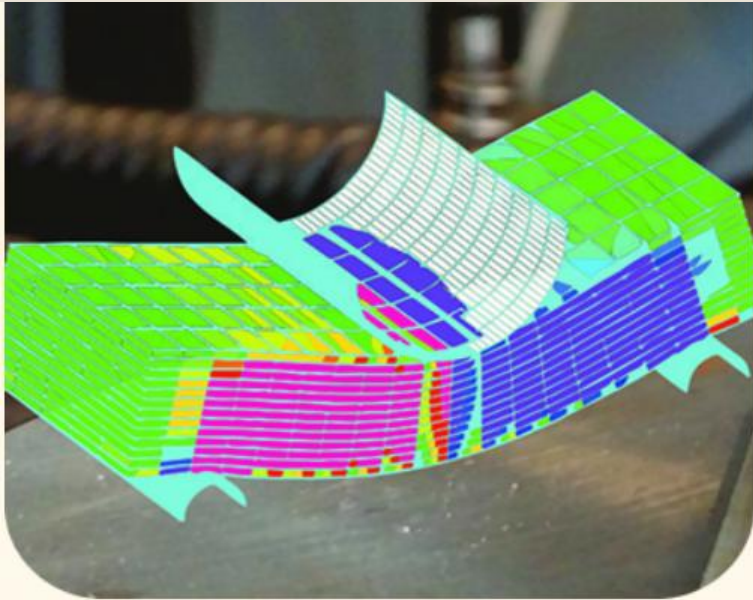
Composites manufacturing consultancy



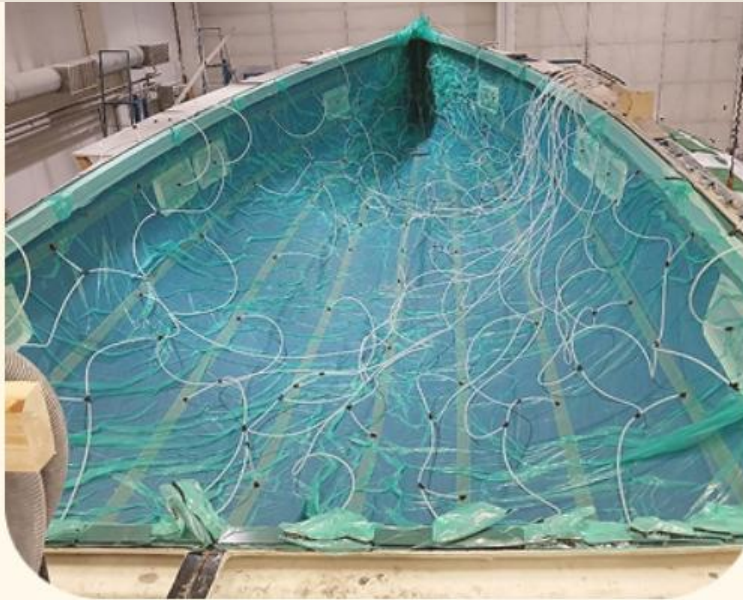
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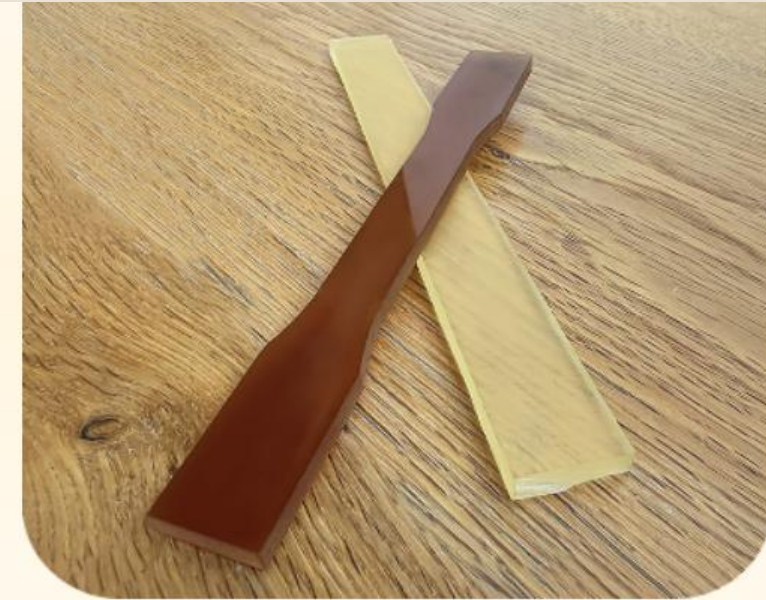
Advanced engineering and calculation



Manufacturing modeling



Research and development of bio materials



Composite manufacturing technology improvement



Drapability and conforming predictions



Structural integrity studies



Potencial constituents and tooling

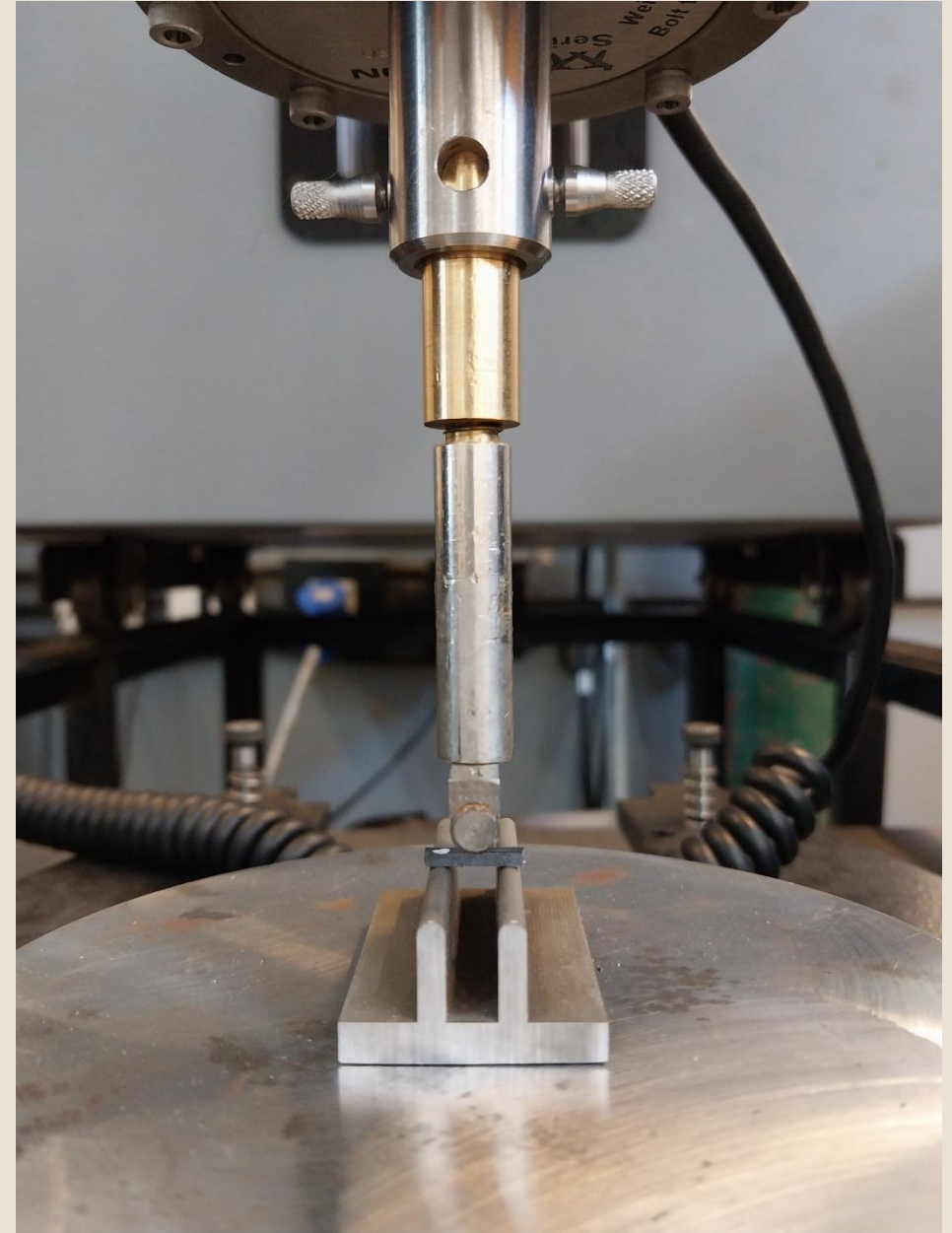
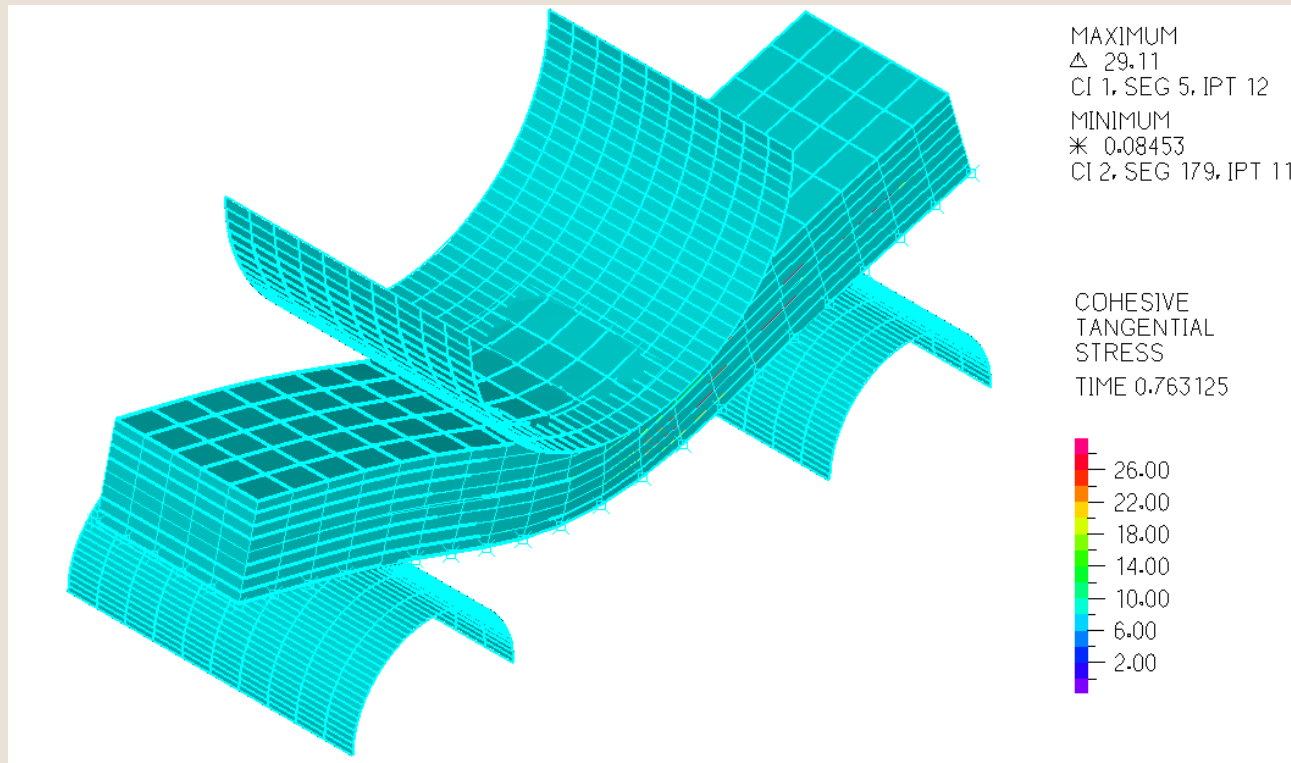


Process quality control monitoring

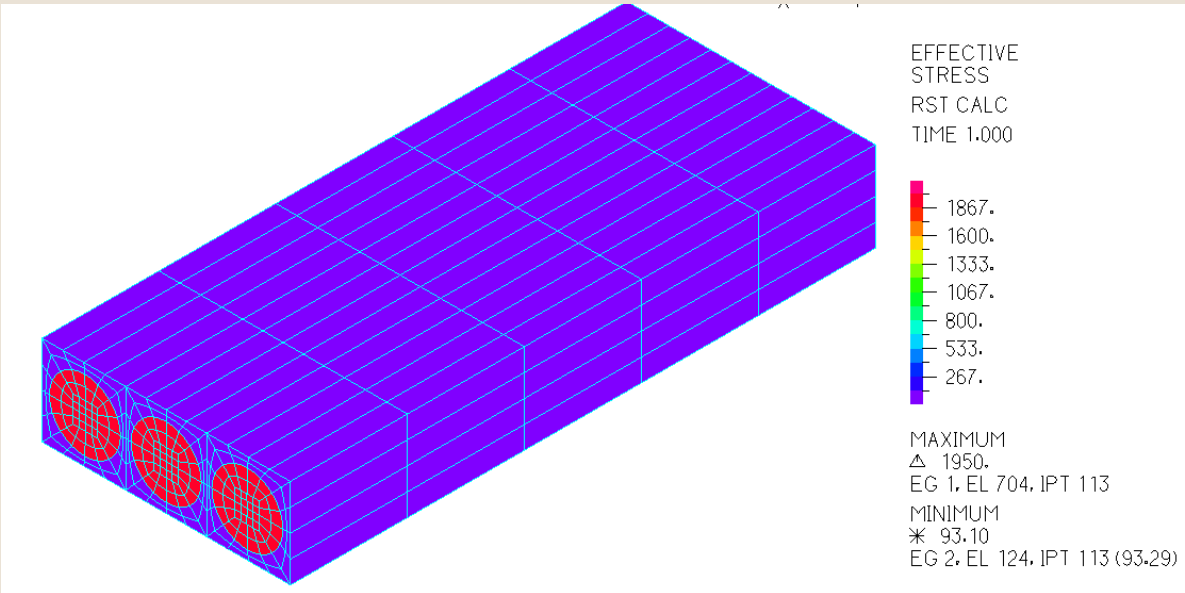
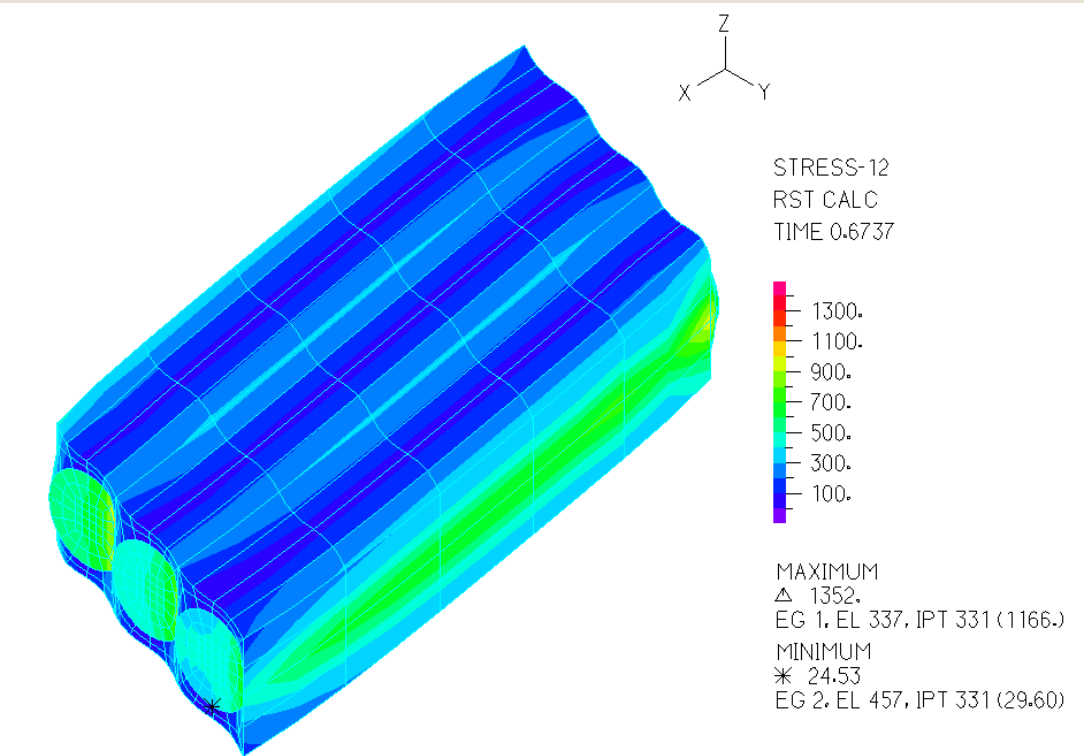
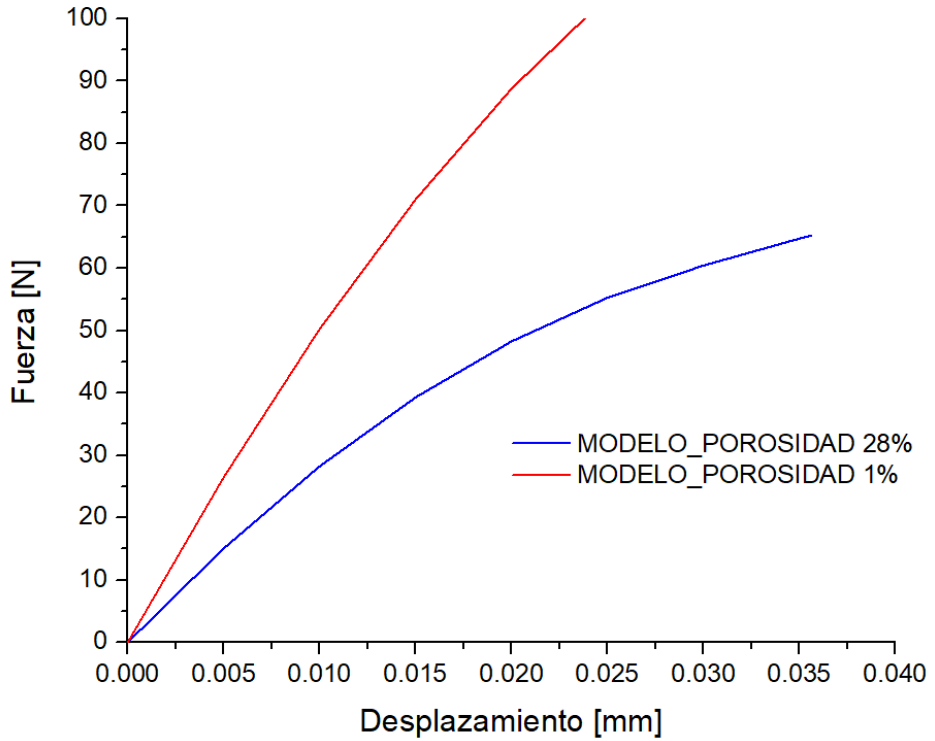
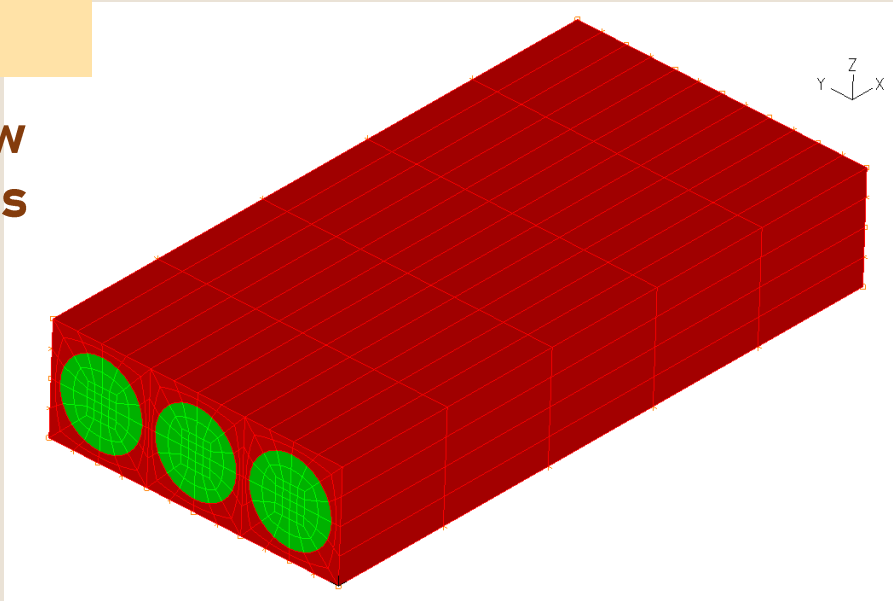


Project management

ILSS Characterization and FEA Calibration

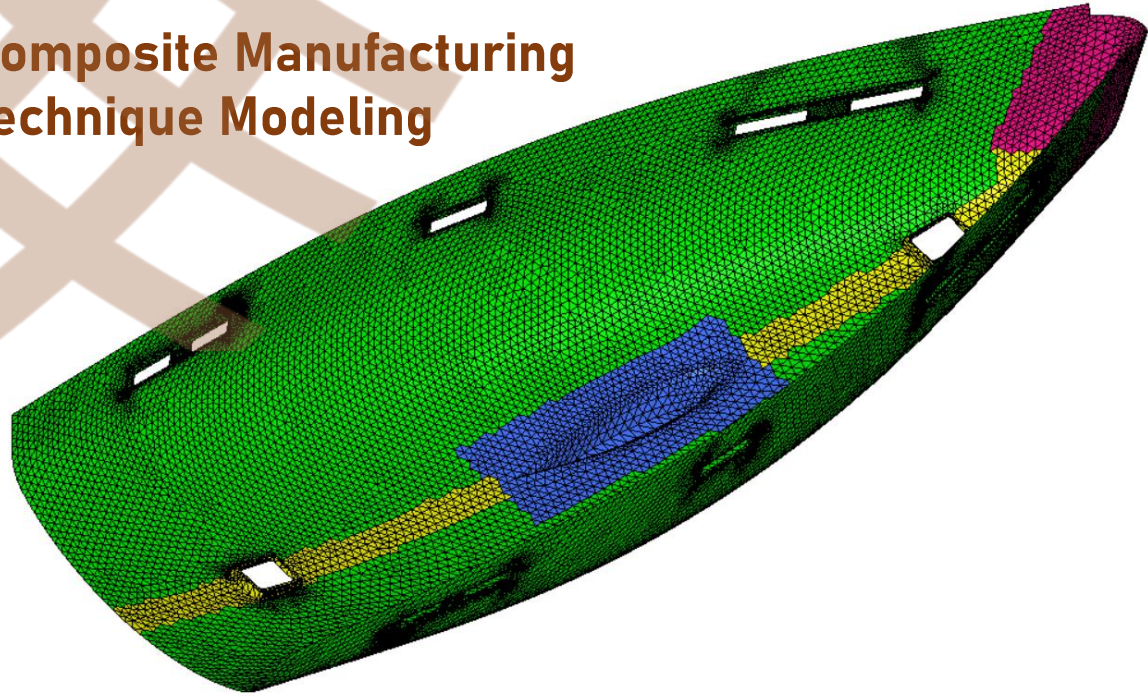


RVE determination for new brand composite materials



Manufacturing modeling

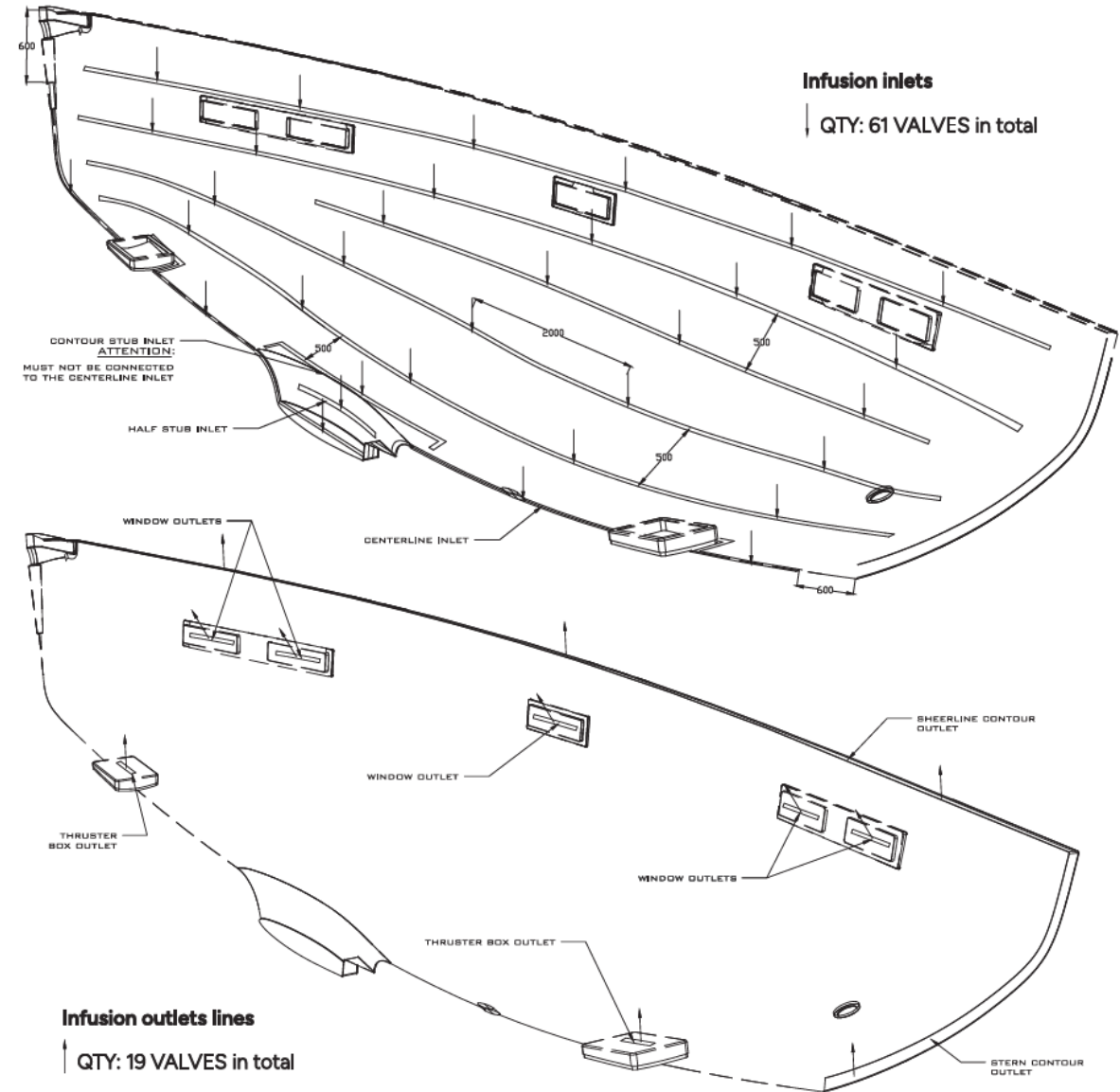
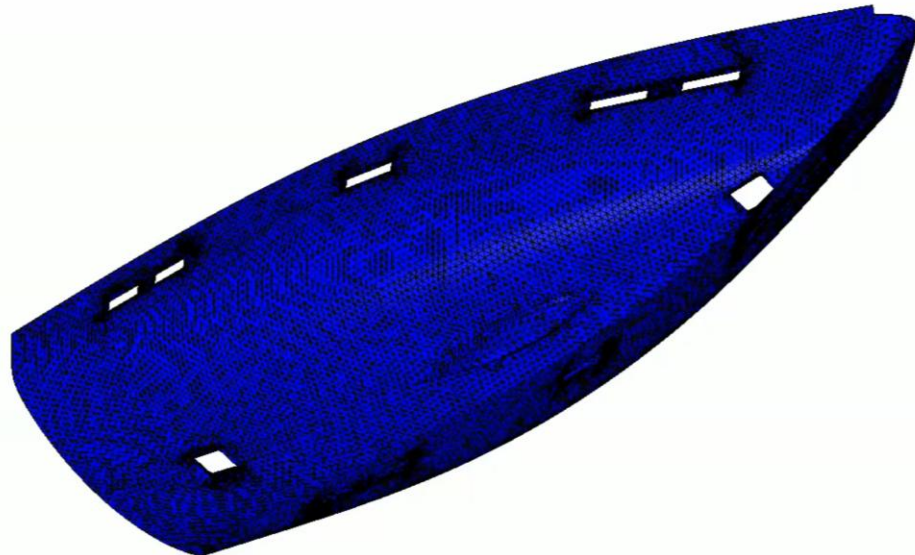
Composite Manufacturing Technique Modeling



Filling

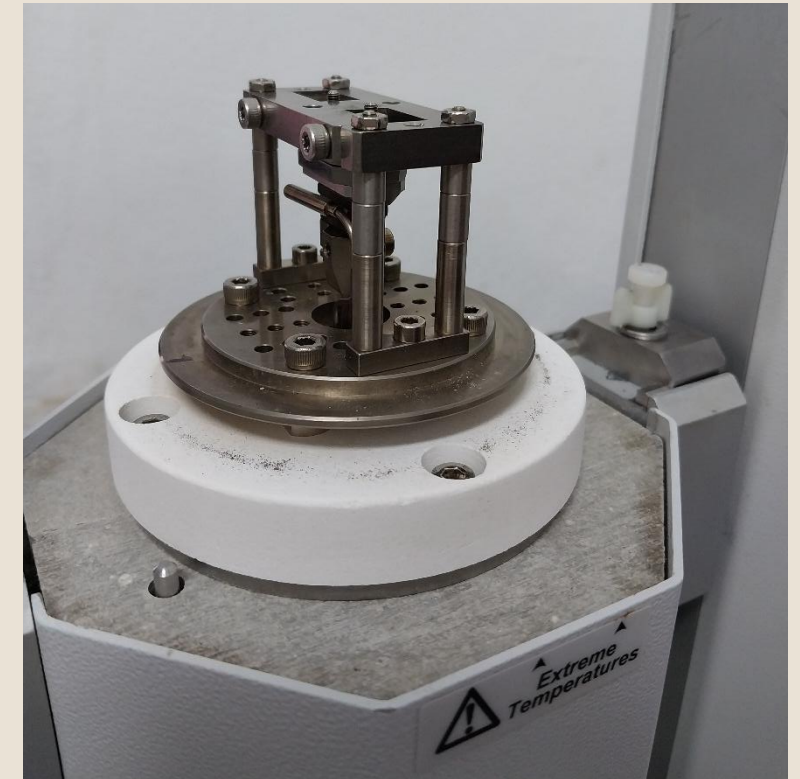
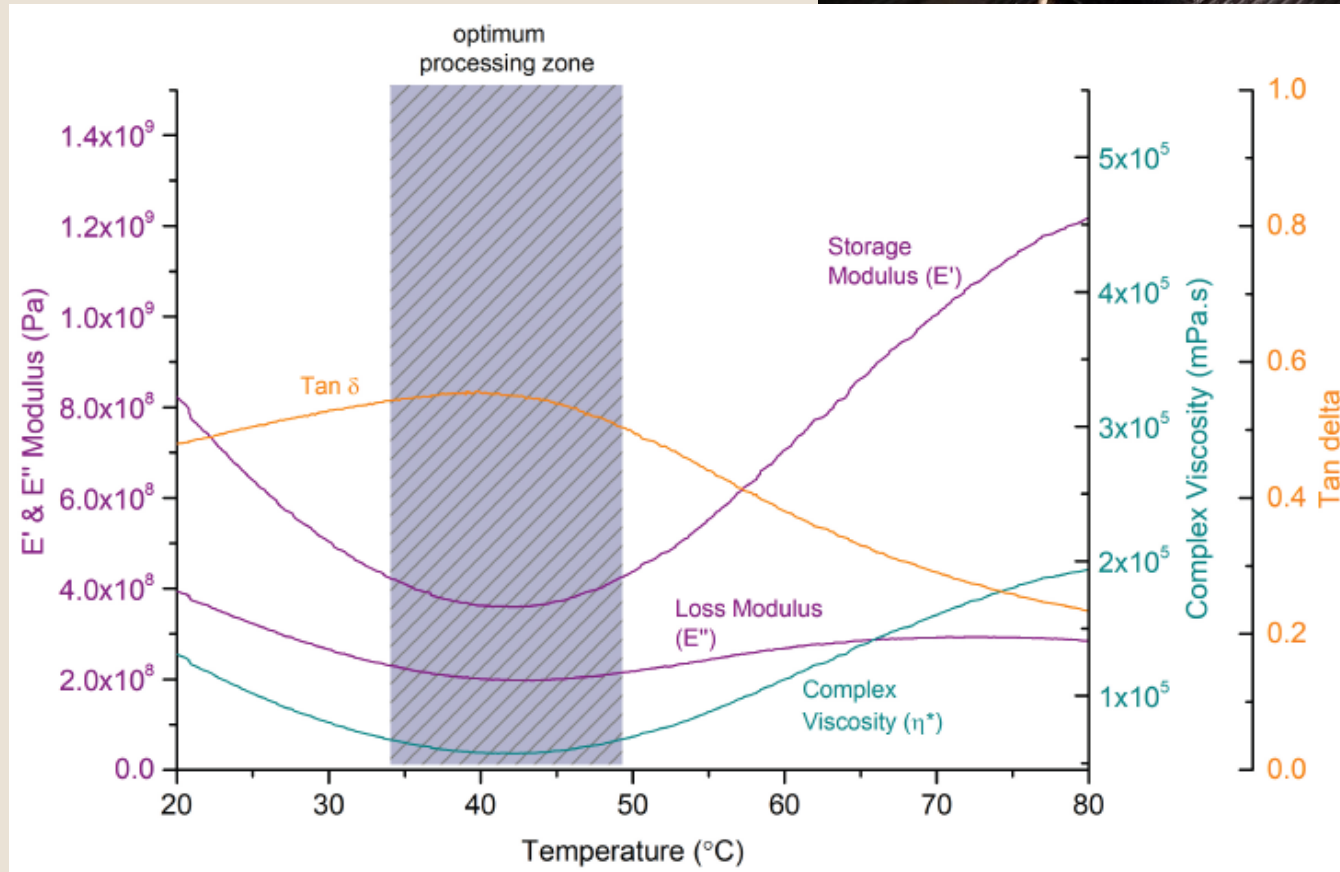
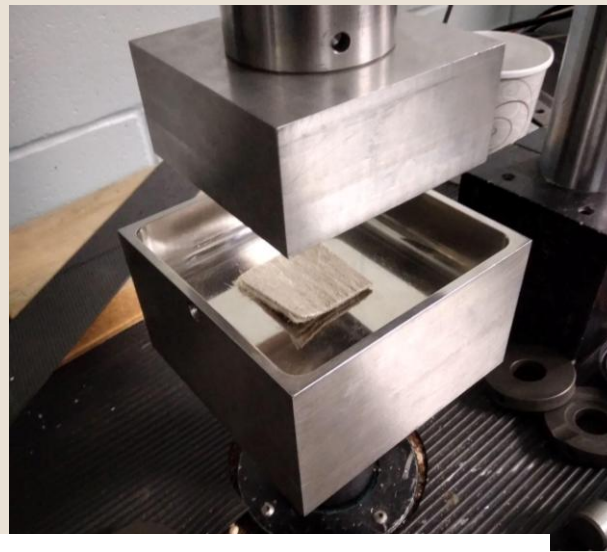


Time : 2 s.



Manufacturing modeling

Composite Manufacturing Technique Characterization



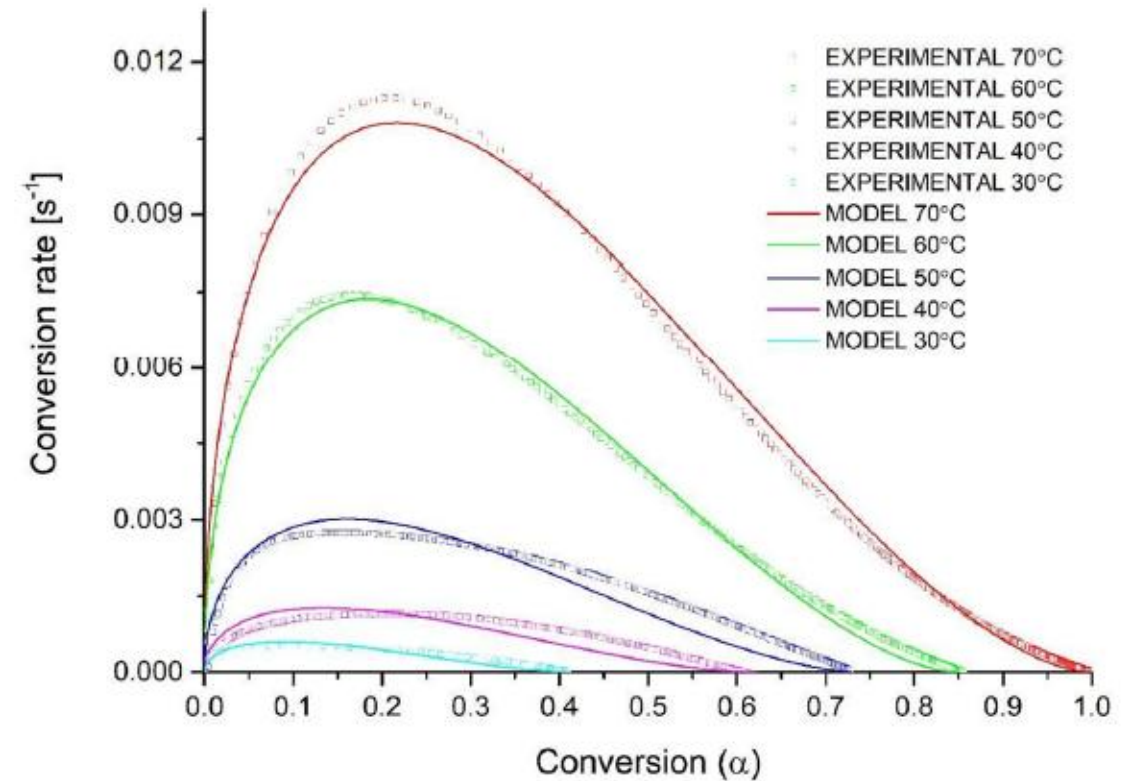
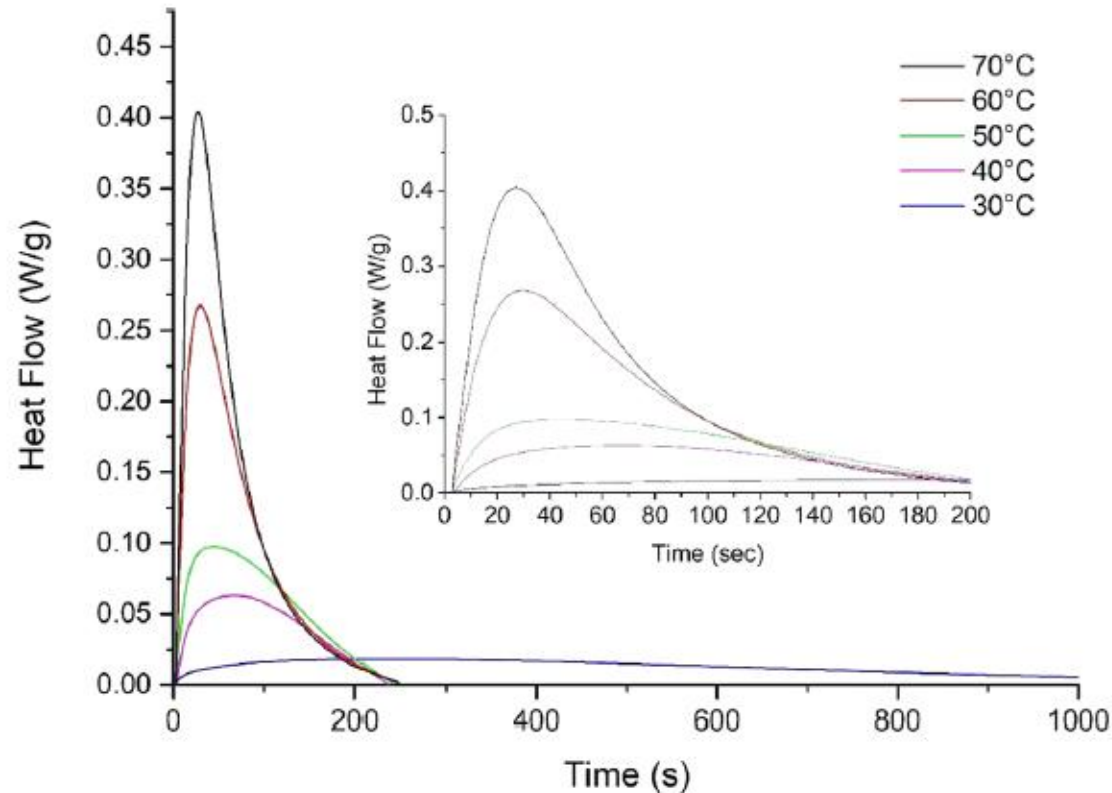
DMA 8000 Perkin Elmer



$$\frac{d\alpha}{dt} = k\alpha^m(\alpha_{max} - \alpha)^n,$$

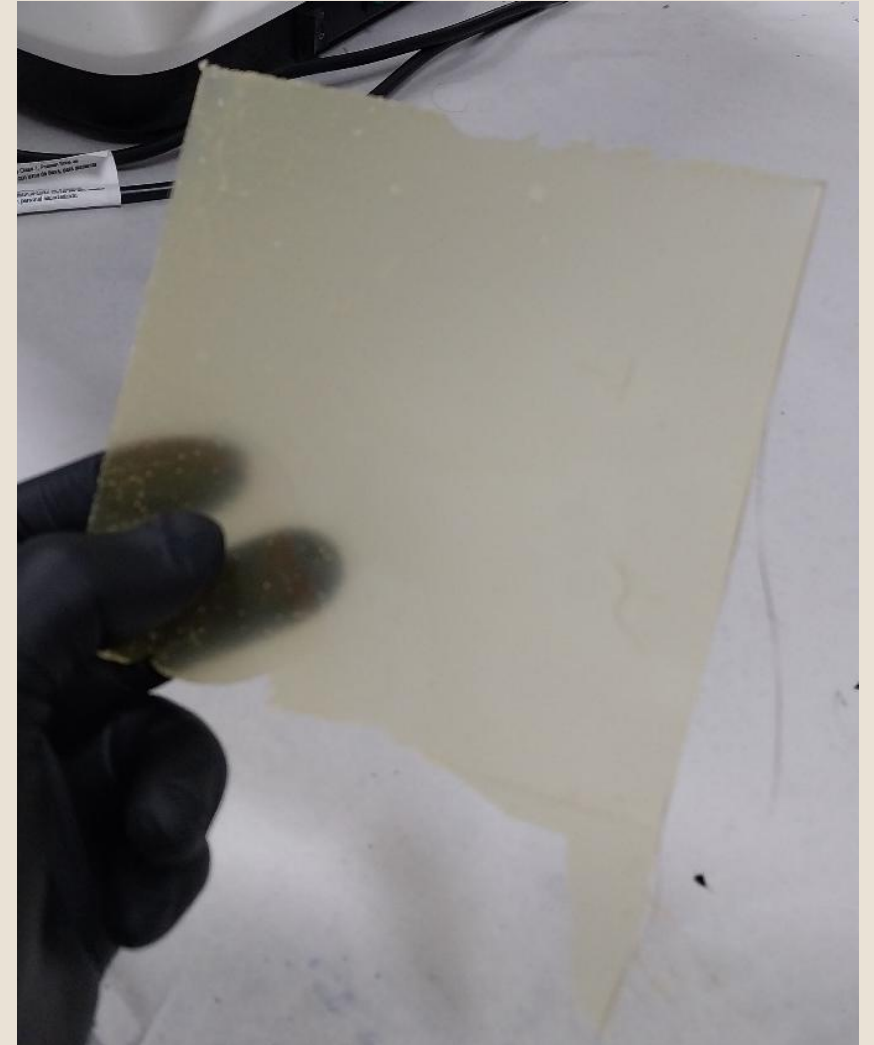
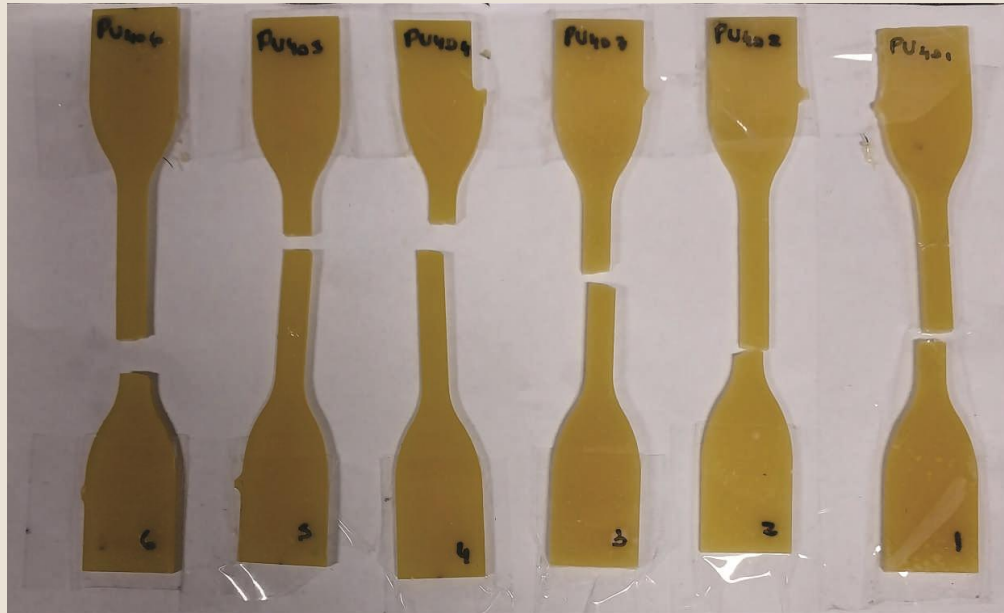
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Research and development of bio materials

Bio Based Polymeric Formulations



Research and development of bio materials

Bio-Polyurethane Processing

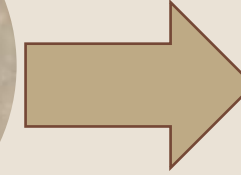
- Low cost
- Low toxicity
- High availability



Mixing and Degassing



Polyurethane
Partially Degassed



~~H₂O~~



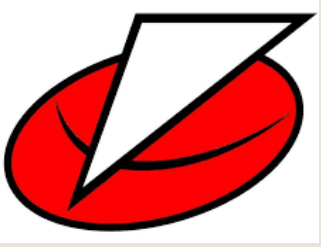
Polyurethane
Fully Degassed



Prepregs Fabrication



Companies that trust us



Current
collaborations

Bio composite material development from cow wastes

POLITO – DISAT department



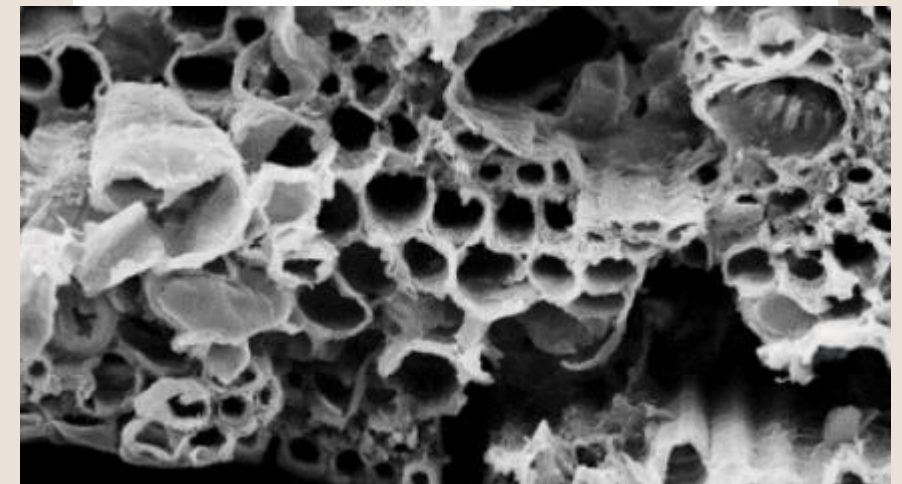
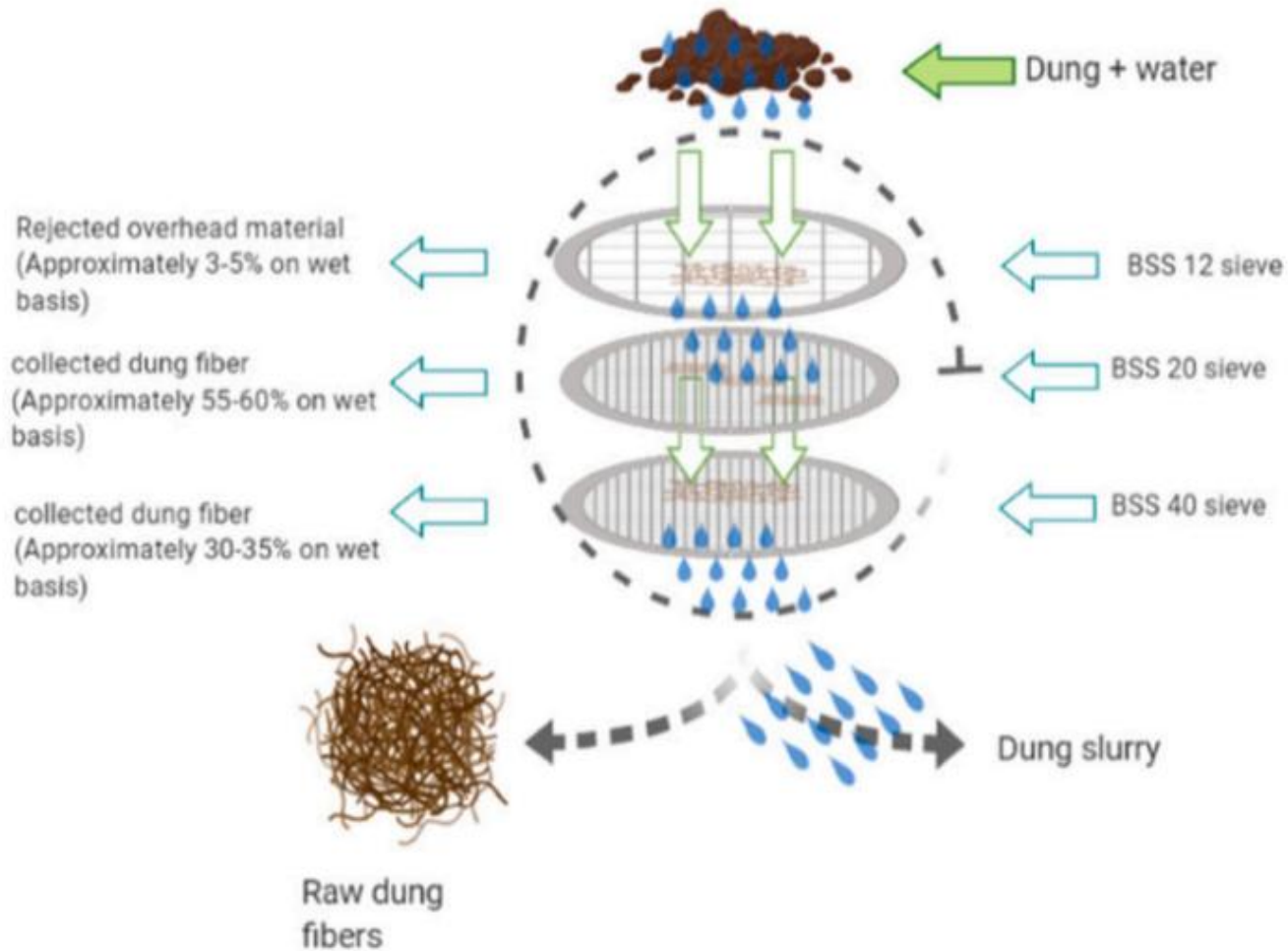
CO₂
N₂O
CH₄

80-95% reduction by 2050 respect to 1990 levels

Current
collaborations

Bio composite material development from cow wastes

POLITO – DISAT department



Current
collaborations

Bio composite material development from cow wastes

Impregnation

Resin fracture surfaces

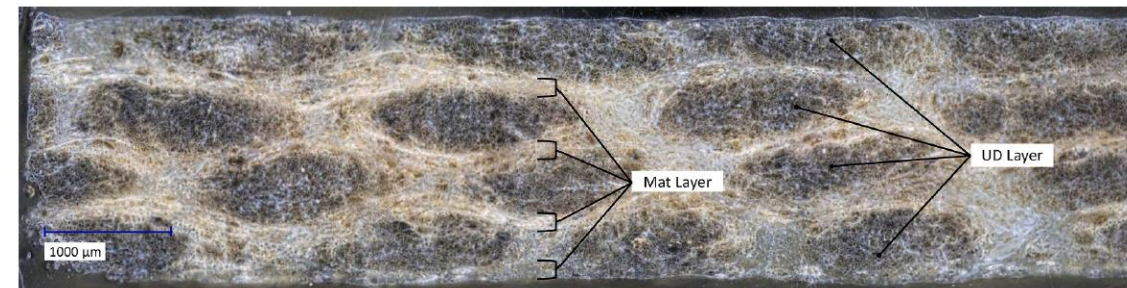
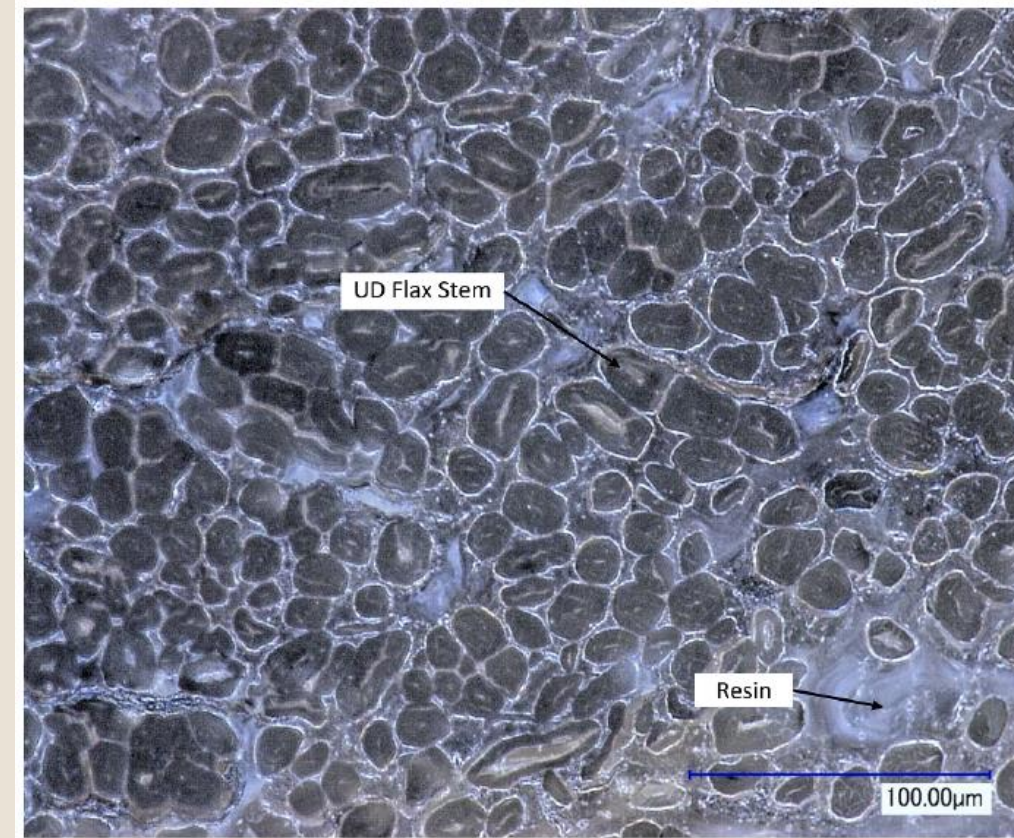
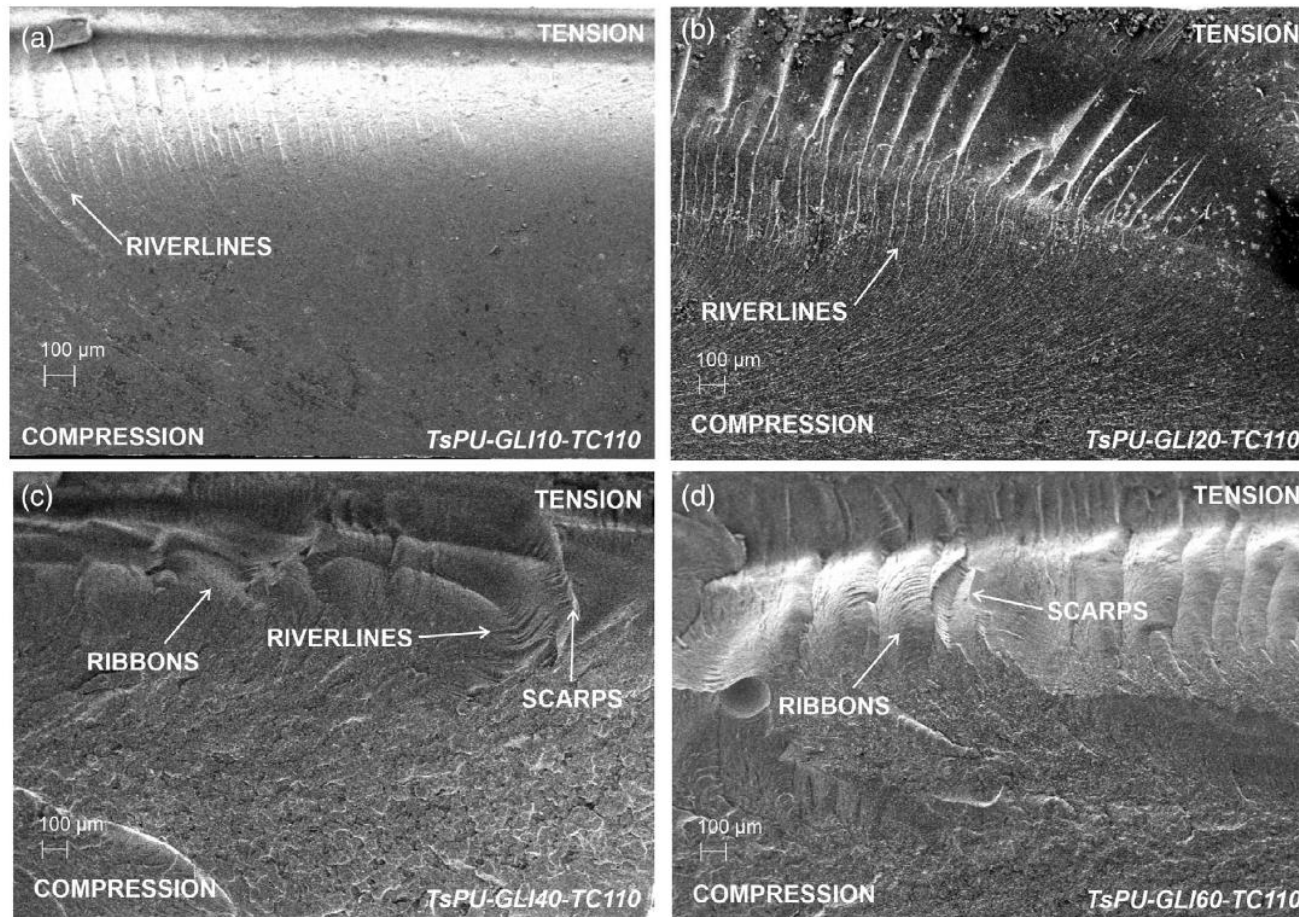
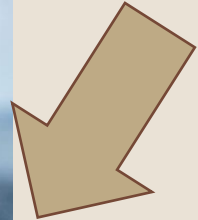
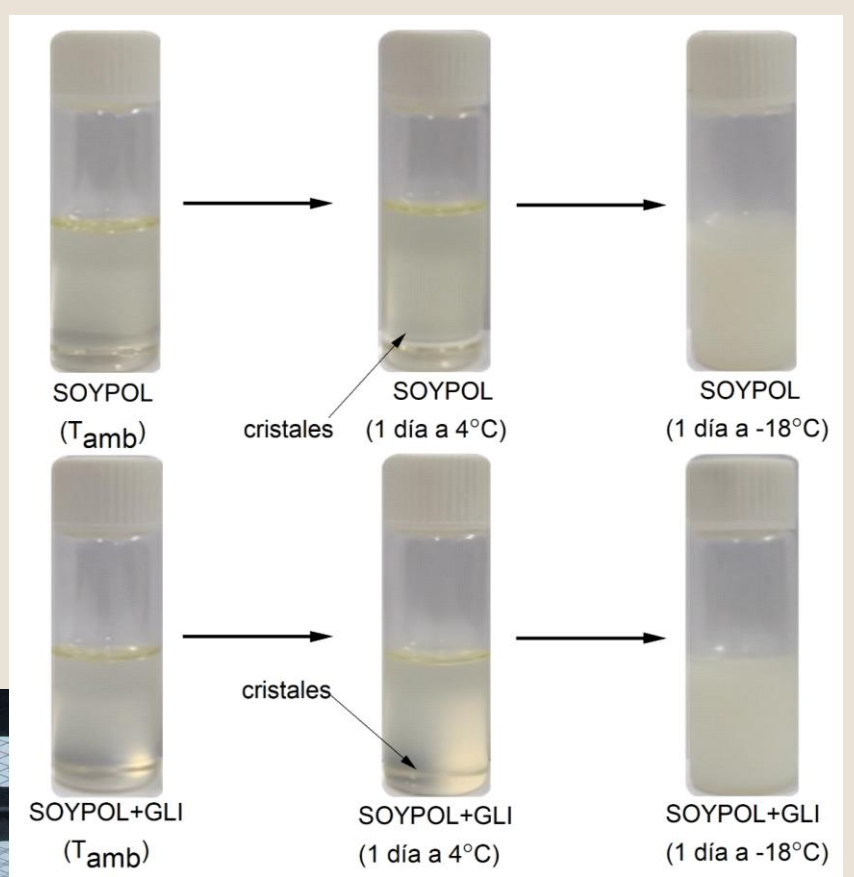
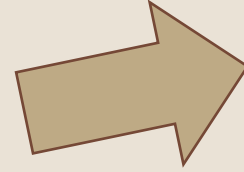


FIGURE 6 SEM micrographs of the fractured surface of the (a) TsPU-GLI10-TC110, (b) TsPU-GLI20-TC110, (c) TsPU-GLI40-TC110, and (d) TsPU-GLI60-TC110 samples.

Current
collaborations

POLIMI – Sailing Team

Hemp fibers





Thanks for attending

Contact

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