

P 2 C : Polymer Processing & Characterization

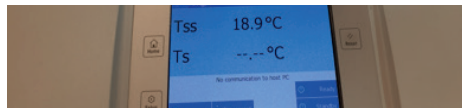
WHAT WE OFFER : services and expertise

- Characterization / test / analysis realized by highly qualified UCLouvain members
- Processing of polymers and composites, ranging from extrusion to 3D printing, RTM/SQRTM
- Characterization of polymers and composites, including thermal, rheological, mechanical and thermomechanical analyses
- Technical advice and consultancy
- Training for R&D engineers from the industrial sector



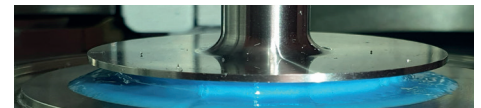
Polymer Processing

- Lab bench twin screw extruders with the option of water assisted extrusion with accessories such as pelletizer, injection molding system and filament and film spooler
- 3D printer machines adapted for conventional thermoplastics as well as for high performance one (PES, PEI, PEEK) (max temperature: 430°C)
- Resin Transfer Molding (RTM)/Same-Qualified RTM (SQRTM)



Thermal analysis

- Differential scanning calorimetry (DSC)
- High pressure DSC (HPDSC) max. 100 bars
- Thermogravimetric analysis (TGA)
- Flash DSC



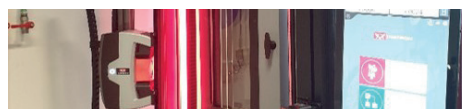
Rheological analysis

- **Shear rheology**
- **Stress/Strain controlled shear rheometers**
For melts, solutions and suspensions, oscillatory shear measurements, creep-recovery tests and nonlinear shear tests
Wide range of geometries
cone-plate, plate-plate with different diameters, cone-partitioned plate geometry, Couette device
- **Extensional rheology**
Measurements on the filament stretching rheometer (Vader1000) or on the Extensional viscosity fixture (EVF)
For polymer melts
Temperature control



Thermomechanical analysis

- Dynamical mechanical analysis (DMA): various deformation modes (shear, tensile, bending, etc.) from -150°C to +350°C
- Thermomechanical analysis (TMA) from -150°C to +350°C



Material testing

- Tensile machine with 100N and 10kN cell force
- Non-contacting video extensometer
- Temperature chamber (-100°C to +350°C and cooling device for LN₂)

CONTACT

Platform managers
Naïma Sallem

naima.sallem@uclouvain.be
+32(0)10/47.40.15 / +32(0)10.47.82.31

Pascal Van Velthem
pascal.vanvelthem@uclouvain.be
+32(0)10/47.84.12

(1) DSC machine – (2) Twin-screw extruder – (3) Plate-plate rheological analysis – (4) TMA device – (5) Tensile device

www.uclouvain.be/p2c

