

Rotational Rheometers

Principle

Application of a shear rate range (in steady mode) or a strain frequency (in dynamic mode) and measurement of the correspondent resistance of the material to flow to determine viscosity and viscoelastic properties (η , G' , G'' and $\tan \delta$) respectively.

Capabilities

- Measurement of viscosity in a wide range of shear rates (0.01 - 1000 s⁻¹) and temperatures.
- Frequency sweep tests for viscoelastic materials.
- Time sweep test to evaluate stability.
- Temperature sweep test for screening crosslinking temperature, gelation point, ...
- Dynamic Mechanical Analyses (DMA) for phase transitions and modulus variation with temperature.

Assets

	Asset	Details
	RFS III Rheometrics	Strain controlled rheometer with high sensitivity for low viscosities. Geometries: parallel plates, cone & plate, concentric cylinders. Temperatures: -20 to +60 °C.
	RMS 800	Strain controlled rheometer to measure viscoelasticity of polymer melts Geometries: parallel plates. T from +30 to +400 °C.
	Anton Paar MCR502	Stress controlled rheometer for steady and dynamic measures from fluids to polymer melts. Geometries: parallel plates, cone & plate, concentric cylinders. Dynamic Mechanical Analysis with torsional geometry. T from -150 to +500 °C.
	Ares Rheometrics	Strain controlled rheometer for steady and dynamic measures from fluids to polymer melts. Geometries: parallel plates, cone & plate, concentric cylinders. Dynamic Mechanical Analysis with torsional geometry. T from -150 to +400 °C.