

PCL Microscopy Lab

Principle

Mission

Techniques

Understanding polymer morphology is key to understanding polymer properties and behavior. In the Microscopy Lab, we work with scientists and engineers to explain material properties as a function of physical characteristics. We provide critical analyses throughout the polymer life cycle—from nascent resin, raw materials, formulations and end-use customer parts. Our wide scope of capabilities allows us to partner in the development process at each of these stages and provide quality images and analysis to promote a better understanding of our materials.

Microscopy

Optical Microscopy with Polarized Light Microscopy

Scanning Electron Microscopy (SEM)

Transmission Electron Microscopy (TEM)

Image Analysis

Fiber Length Distribution

Black Specs

Elemental Analysis

Energy Dispersive Spectroscopy (EDS)

Laser-Induced Breakdown Spectroscopy (LIBS)

Surface Science

Rugosity (Surface Roughness)

Contact Angle with Surface Free Energy

Sample Preparation

Hot Stage to 600 °C

Ultramicrotome with Cryo Capability

Cross sectioning with polisher and cryofracture

Muffle Furnace for polymer ashing

Band saw for resizing

Team

Microscopy Lab - E1106

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