RESEARCH FACILITIES AND EQUIPMENT

University of Mississippi Composite Materials Research Group

201 Carrier Hall, P. O. Box 1848, University, MS 38677 (662) 915-5378

- PTI Pulstar 804 pultruder with enhanced pull speed (120"/min) and pull and clamp pressure capacity (10,000 lbs); data acquisition of all process conditions
- McLean Anderson Little Hornet computer controlled filament winder capable of parts up to 24" in diameter and 40" in length
- MTS 110, 22, and 5 kip fatigue-rated material test systems with TestStar and TestWorks control and acquisition packages along with fixtures for standard mechanical property tests including tension, compression, flex (3 and 4 point), short-beam shear, Iosipescu shear, and fatigue and temperature chamber
- Tinius Olsen 10,000 in-lb torsion machine with computer control and analysis
- HP modal and spectrum analysis equipment for dynamic property evaluation
- TA dynamic mechanical analyzer (DMA)
- Dynatup 8250 HV instrumented impact test system with temperature chamber
- Photoelastic analysis system
- TA modulated differential scanning calorimeter to measure thermal conductivity, heat capacity, and standard DSC parameters
- TA modulated thermogravimetric analysis system for measurement of weight change as a function of temperature and decomposition kinetics
- Rheometrics AHRES rheometer for studying the rheological characteristics of polymers/composites
- Temperature controlled Brookfield viscometer
- Nikon optical microscopes with image analysis and mounting/polishing equipment
- JEOL 6100 SEM with Oxford-Link EDS and image analysis software
- Extensive computer acquisition and analysis equipment connected through a Composite Materials Research Group network to the University supercomputer and the Internet
- Photonetics 1450 fiber optic pressure sensor
- Micromet Instruments Eumetric 100A dielectrometer for measuring degree of cure within a pultrusion die
- Thermotron SE-300-2-2 and SE-600-5-5 temperature and humidity control environmental chambers

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