MATERIALS TESTING

The Gateway Materials Test Center (GMTC) was formed in response to requests from area businesses seeking local composite and textile testing options. GMTC is equipped with state of the art testing systems. Access to Joint School of Nanoscience and Nanoengineering faculty enables us to draw on the experiences of technical experts to deal with complex fabrication and testing issues. Some of our equipment is highlighted below, and a sampling of our most requested tests are listed on the reverse.

GMTC is ISO 17025 accredited. Our pricing is competitive and our experienced staff is ready to work with you. Contact us today for a quote!

MATERIALS TEST SYSTEMS

The Instron 3384 and 5900R are both equipped with temperature chambers to allow for testing at elevated and sub-ambient temperatures (-200F to 600F). The systems have load cells ranging from 2 lb to 30K lbs and a wide assortment of ASTM fixtures.

AUTOCLAVE

The Bondtech refurbished McGill MiniBonder accommodates panels up to 18". Panels can be fabricated to Boeing specifications.

WATERJET

The Flow Mach 2 Waterjet has a four foot squre work envelope and can cut through materials such as metals, composites, stone, tile and glass from 1/16 inch to over 10 inches thick.

PRECISION GRINDER

The Chevalier FSG-2A618 Precsion Grinder is used on specimens to achieve unusual radii and angles and can achieve the tightest of ASTM tolerances.

WALK-IN OVEN

The LR Technology convection oven measures 8'W x 8' D x 6' H. It has a maximum temperature of 500°F. It can accommodate large composite parts for curing.

FATIGUE TEST SYSTEM

The Instron 8802 is a servohydraulic machine that can be used on basic metals, composites, and plastics as well as larger scale components. It has an axial force capacity of ±500kN (112,500 lbf).

IMPACT TEST SYSTEM

The Instron 9250G can operate at an energy level of up to 1000 ft-lb and at a speed of up to 5 mps. It is equipped with a pneumatic rebound brake. The output data acquired is Load vs. Time.

VIS SYSTEM

The Mitutoyo Quick Vision Elf can measure two dimensional specimens to the tightest of tolerances. It is invaluable for measuring radii and angles on the more intricate specimens. It is extremely accurate with a 2.1 µm measurement uncertainty.

ENVIRONMENTAL CHAMBER

The 10 cubic foot Tenney C-EVO can condition specimens from –73° to 200° C. Humidity can be controlled in the range of 10% to 95% RH over the temperature range of 20° to 85° C limited by a 3° dew point.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Contact Us:
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GATEWAY MATERIALS TEST CENTER

MOST REQUESTED TESTING CAPABILITES

ASTM C271	Standard Test Method for Density of Sandwich Core Materials	*
ASTM C273	Standard Test Method for Shear Properties of Sandwich core Materials	*
ASTM C297	Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions	*
ASTM C364	Standard Test Method for Edgewise Compressive Strength of Sandwich Constructions	*
ASTM C365	Standard Test Method for Flatwise Compressive Properties of Sandwich Cores	*
ASTM C393	Standard Test Method for Core Shear Properties of Sandwich Constructions by Beam Flexure	*
ASTM D1781	Standard Test Method for Climbing Drum Peel for Adhesives	*
ASTM D2344	Standard Test Method for Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates	*
ASTM D3039	Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials	*
ASTM D3763	Standard Test Method for High Speed Puncture Properties of Plastics Using Load and Displacement Sensors	*
ASTM D5379	Standard Test Method for Shear Properties of Composite Materials by the V-Notched Beam Method	*
ASTM D6484	Standard Test Method for Open-Hole Compressive Strength of Polymer Matrix Composite Laminates	*
ASTM D6641	Standard Test Method for Compressive Properties of Polymer Matrix Composite Materials Using a Combined Loading compression (CLC) Test Fixture	*
ASTM D6775	Standard Test Method for Breaking Strength and Elongation of Textile Webbing, Tape and Braided Material	*
ASTM D7264	Standard Test Method for Flexural Properties of Polymer Matrix Composite Materials	*
ASTM D3763	Standard Test Method for High Speed Puncture Properties of Plastics Using Load and Displacement Sensors	*
ASTM D695	Standard Test Method for Compressive Properties of Rigid Plastics	
ASTM D792	Standard Test Method for Density and specific Gravity of Plastics by Displacement	
ASTM D1894	Standard Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and sheeting	
ASTM D2584	Standard Test Method for Ignition Loss of Cured Reinforced Resins	

ASTM D3418	Standard Test Method for Transition Temperatures and enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry	
ASTM D3531	Standard Test Method for Resin Flow of Carbon Fiber-Epoxy Prepreg	
ASTM D3532	Standard Test Method for Gel Time of Carbon Fiber-Epoxy Prepreg	
ASTM D3762	Standard Test Method for Adhesive-Bonded Surface Durability of Aluminum (Wedge Test)	
ASTM D3846	Standard Test Method for In-Plane Shear Strength of Reinforced Plastics	
ASTM D4964	Standard Test method for Tension and Elongation of Elastic Fabrics (CRE)	
ASTM D5034	Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)	
ASTM D5035	Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Strip Method)	
ASTM D5229	Standard Test Method for Moisture Absorption and Equilibrium Conditioning of Polymer Matrix Composite Materials	
ASTM D5278	Standard Test Method for Elongation of Narrow Elastic Fabrics (Static Load Testing)	
ASTM D5467	Standard Test Method for Compressive Properties of Unidirectional Polymer Matrix Composite Materials Using a Sandwich Beam	
ASTM D5766	Standard Test Method for Open-Hole Tensile Strength of Polymer Matrix Composite Laminates	
ASTM D6614	Standard Test Method for Stretch Properties of Textile Fabrics (CRE)	
ASTM D6797	Standard Test Method for bursting Strength of Fabrics constant Rate of Extension (CRE) Ball Burst Test	
ASTM D7028	Standard Test Method for Glass Transition Temperature (DMA Tg) of Polymer Matrix Composites by Dynamic Mechanical Analysis (DMA)	
ASTM D7136	Standard Test Method for Measuring the Damage Resistance of a Fiber-Reinforced Polymer Matrix Composite to a Drop-Weight Impact Event	
ASTM D7137	Standard Test Method for Compressive Residual Strength Properties of Damaged Polymer Matrix Composite Plates	

* ISO 17025 Certified