

The 48,000 sq. ft AEW facility is a state-of-the-art “one stop shop” for integrated composite materials research, development and testing. AEW has in house capabilities for developing a composite product or structure from the conceptual stage through research, manufacturing of prototypes, comprehensive testing and evaluation, code approval and commercialization. The laboratories include: a strand composites pilot plant, resin infusion lab, mechanical and environmental testing labs, polymer extrusion pilot plant, microscopy lab, and a structural testing laboratory designed to evaluate components up to 90’ long and 30’ high.



The AEW staff includes highly qualified, experienced and recognized professionals with expertise in an interdisciplinary mix including adhesion, adhesives, civil and structural engineering, wood science, and polymer science. These professionals are assisted by full-time laboratory staff and supervised graduate/undergraduate student researchers.

## ISO 17025 Accredited Testing Offered by AEW

Field of Testing	ASTM Standard	Test Method
<i>Plastic Materials</i>	ASTM D256	Determining the Izod Pendulum Impact Resistance of Plastics
	ASTM D635	Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
	ASTM D638	Tensile Properties of Plastics
	ASTM D695	Compressive Properties of Rigid Plastics
	ASTM D696	Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous Silica Dilatometer
	ASTM D790	Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
	ASTM D792	Density and Specific Gravity (Relative Density) of Plastics by Displacement
	ASTM D953	Bearing Strength of Plastics
	ASTM D2765	Standard Test Methods for Determination of Gel Content and Swell Ratio of Crosslinked Ethylene Plastics (Methods A and C)
	ASTM D3846	In-Plane Shear Strength of Reinforced Plastics
	ASTM D4065	Standard Practice for Plastics: Dynamic Mechanical Properties: Determination and Report of Procedures
	ASTM D4812	Unnotched Cantilever Beam Impact Strength of Plastics
	ASTM D6109	Flexural Properties of Unreinforced and Reinforced Plastic Lumber
	ASTM D 6110	Determining the Charpy Impact Resistance of Notched Specimens of Plastics
<i>Wood Products and Materials</i>	ASTM D143	Testing Small Clear Specimens of Timber
	ASTM D198	Static Tests of Lumber in Structural Sizes
	ASTM D245	Standard Practice for Establishing Structural Grades and Related Allowable Properties for Visually Graded Lumber
	ASTM D1037	Evaluating Properties of Wood-Base Fiber and Particle Panel Materials
	ASTM D2395	Specific Gravity of Wood and Wood-Based Materials
	ASTM D2555	Establishing Clear Wood Strength Values
	ASTM D3737	Standard Practice for Establishing Allowable Properties for Structural Blued Laminated Timber (Glulam)
	ASTM D4442	Direct Moisture Content Measurement of Wood and Wood-Base Material

	ASTM D4761	Mechanical Properties of Lumber and Wood-Base Structural Material
	ASTM D4933	Standard Guide for Moisture Conditioning of Wood and Wood-Base Materials
	ASTM D5456	Standard Specification for Evaluation of Structural Composite Lumber Products
	ASTM D6815	Standard Specification for Evaluation of Duration of Load and Creep Effects of Wood and Wood-Based Products
<b>Composite Materials</b>	ASTM C393	Flexural Properties of Sandwich Constructions
	ASTM D2344	Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates
	ASTM D2584	Ignition Loss of Cured Reinforced Resins
	ASTM D3039	Tensile Properties of Polymer Matrix Composite Materials
	ASTM D3410	Compressive Properties of Polymer Matrix Composite Materials with Unsupported Gage Section by Shear Loading
	ASTM D3479	Tension-Tension Fatigue of Polymer Matrix Composite Materials
	ASTM D3518	In-Plane Shear Response of Polymer Matrix Composite Materials by Tensile Test of a $\pm 45^\circ$ Laminate
	ASTM D4255	Standard Guide for Testing In-plane Shear Properties of Composite Laminates
	ASTM D5379	Shear Properties of Composite Materials by the V-Notched Beam Method
	ASTM D5528	Mode I Interlaminar Fracture Toughness of Unidirectional Fiber-Reinforced Polymer Matrix Composites
	ASTM D5766	Open Hole Tensile Strength of Polymer Matrix Composite Laminates
	ASTM D6115	Mode I Fatigue Delamination Growth Onset of Unidirectional Fiber-Reinforced Polymer Matrix Composites
	ASTM D6641	Standard Test Method for Determining the Compressive Properties of Polymer Matrix Composite Laminates Using a Combined Loading Compression (CLC) Test Fixture
	ASTM F1679	Using a Variable Incidence Tribometer (VIT)
<b>Adhesives</b>	ASTM D905	Strength Properties of Adhesive Bonds in Shear by Compression Loading
	ASTM D1101	Integrity of Adhesive Joints in Structural Laminated Wood Products for Exterior Use
	ASTM D2339	Strength Properties of Adhesives in Two-Ply Wood Construction in Shear by Tension Loading
	ASTM D2559	Standard Specification for Adhesives for Structural Laminated Wood Products for Use Under Exterior (Wet Use) Exposure Conditions
	ASTM D3165	Strength Properties of Adhesives in Shear by Tension Loading of Single-Lap-Joint Laminated Assemblies
	ASTM D5868	Lap Shear Adhesion for Fiber Reinforced Plastic (FRP) Bonding
<b>Structural Panels and Assemblies</b>	ASTM E72	Conducting Strength Tests of Panels for Building Construction (Transverse Load Only)
	ASTM E 564	Static Load Test for Shear Resistance of Framed Walls for Buildings
	ASTM E2126	Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting System for Buildings
<b>Fasteners</b>	ASTM D1761	Standard Test Methods for Mechanical Fasteners in Wood

**For more information about the AEWCCenter's Industrial Services, contact:**  
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