



PRELIMINARY DATA

Xycomp® DLF™

High-Performance Thermoplastic Composite Aerospace Brackets

Innovative design and unique molding capability provide versatile solutions

An aircraft is composed of hundreds of distinct pieces and assemblies, each performing an essential function in the overall design. Throughout the aircraft, brackets are used to join structural elements together, provide support, and hold essential components firmly in place. Interior brackets must withstand daily repetitive use and withstand high-impact loads for crash protection, while meeting strict FST (flame, smoke, toxicity) requirements. Brackets outside the passenger cabin must withstand extreme temperatures, harsh aircraft chemicals, and high vibrations.

To withstand these constant demands and extreme environments, aerospace brackets have historically been manufactured from metallic materials, such as aluminum and steel, for their excellent physical and chemical properties. In most applications, traditional thermoset composite solutions have not been suitable due to the complexity of bracket geometry, and the wide range of environmental and mechanical performance requirements. Greene Tweed's Xycomp® DLF™ high-performance thermoplastic composite brackets can endure the substantial demands of aerospace environments, while offering significant weight savings over metallic parts.

Xycomp® DLF™ high-performance thermoplastic composite brackets are 35 to 50 percent lighter than competitive metallic components and offer an excellent replacement for metal materials. Using our proprietary compression molding system, Xycomp® DLF™ brackets offer complex shapes with molded-in features such as bushings or attachment points. The material offers excellent resistance to aerospace solvents, high temperatures, and high vibrations for extended component life. Xycomp® DLF™ brackets also can be recycled upon removal from an aircraft.



Advantages of Xycomp® DLF™ Aerospace Brackets

- 35–50% weight reduction over metallic components for light-weight, durable parts that can tolerate aerospace environments
- Proprietary compression molding provides high-performance solutions with increased part complexity
- Complex-contour shapes for near-net, intricate geometry with capability for molded-in fastening
- Meets FST requirements for interior aerospace parts, along with excellent chemical, heat, and vibration resistance for exterior components

Design Through Production Approach

- Unique processing capabilities for manufacturing complex contour shapes and tubular components, such as high-pressure, near-net compression molding From prototype development through production implementation
- High-tolerance composite machining
- Material characterization, quality and structural component testing
- Extensive global support capabilities with superior responsiveness