



# XYCOMP® DLF HIGH-PERFORMANCE THERMOPLASTIC COMPOSITE AEROSPACE BRACKETS

## INNOVATIVE DESIGN AND UNIQUE MOLDING CAPABILITY OFFERS VERSATILE SOLUTIONS

An aircraft is comprised of hundreds of distinct pieces and assemblies, each performing an essential function in the overall design. Throughout the aircraft, brackets are utilized 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 and Toxicity) requirements. Brackets outside the passenger cabin must stand up to 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 30-60% lighter than competing metallic components and offer an excellent replacement for metal materials. Utilizing our proprietary compression molding system, Xycomp DLF brackets offer highly complex shapes with molded-in features such as bushings or attachment points. The material shows excellent resistance to aerospace solvents, high temperatures and high vibrations for extended component life. In addition, Xycomp brackets can be recycled upon removal from the aircraft.



*Xycomp aerospace bracket*

## ADVANTAGES OF XYCOMP DLF AEROSPACE BRACKETS

- 30-60% 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
  - High pressure near-net compression molding
  - Techna3™ complex tubular shape molding
  - Specialized thermoplastic fiber-placement processes
- From prototype development through production implementation
- High-tolerance composite machining
- Material characterization, quality and structural component testing
- Extensive, global support capabilities with superior responsiveness

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