



# XYCOMP® DLF®

## High Performance Thermoplastic Composite

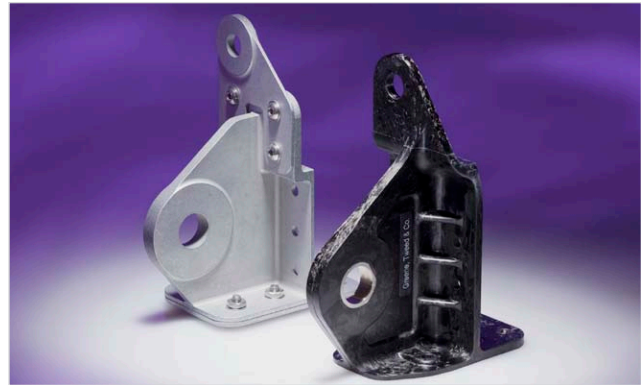
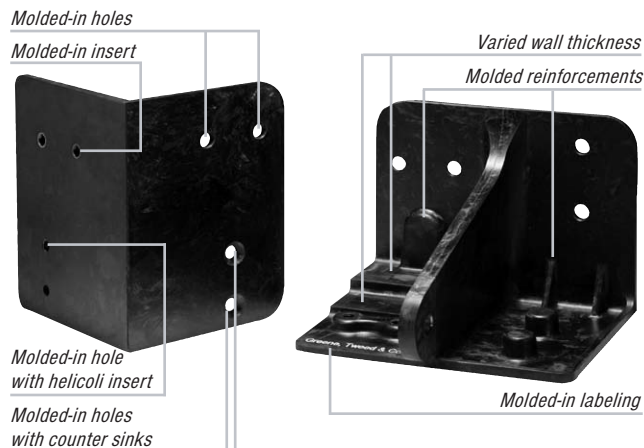
### PERFORMANCE OF METAL AT A FRACTION OF THE WEIGHT

Xycomp® DLF® is a lightweight thermoplastic composite developed to replace complex-shape metal components on aircraft. With outstanding fatigue, vibration and impact resistance, it provides up to 60% weight savings to help reduce emissions and fuel burn while providing exceptional performance.

Xycomp DLF is produced from aerospace-grade, carbon fiber reinforced, unidirectional prepreg tape which is chopped into flakes. This results in high fiber content (70% by weight), longer fibers (0.5 in./13 mm or greater), and a high degree of material control.

Flakes are matched-die compression molded in a proprietary process called ProFusion®, enabling the production of 3-D shapes with variable wall thickness and molded-in features such as fasteners, inserts, and ribs. The benefits of this molding technique include the consolidation of complex assemblies into fewer parts, and the optimization of raw material required per component (buy-to-fly ratio). In addition to these properties, Xycomp DLF is resistant to all common aerospace fluids.

Xycomp DLF components pass both FST (flame, smoke, toxicity) standards and the 15-minute burn-through requirement, making them ideal for use in aircraft interiors, engines, nacelles, or aerostructures. Through investment in extensive technical capabilities, Greene, Tweed partners with customers from concept and design analysis, through certification, to production. Xycomp DLF components are manufactured with nearly zero waste, and are fully recyclable at the end of their service life as part of our eco-innovation™ initiative.



*Xycomp DLF complex-shaped component replaces multi pieced metallic assembly at a fraction of the weight*

### FEATURES & BENEFITS

- Up to 60% weight reduction compared to metal components, for reduced fuel burn and emissions
- ProFusion near-net compression molding enables consolidation of complex assemblies into fewer parts, with high quality and repeatability
- Exceptional fatigue, vibration and impact resistance delivers performance equal to or better than metal
- Significant improvements in impact and elevated temperature performance vs. injection molded materials
- Excellent retention of properties after thermal aging
- Chemical resistance to all common aerospace fluids
- Components are manufactured with nearly zero waste and are recyclable at the end of their service life

### APPLICATIONS

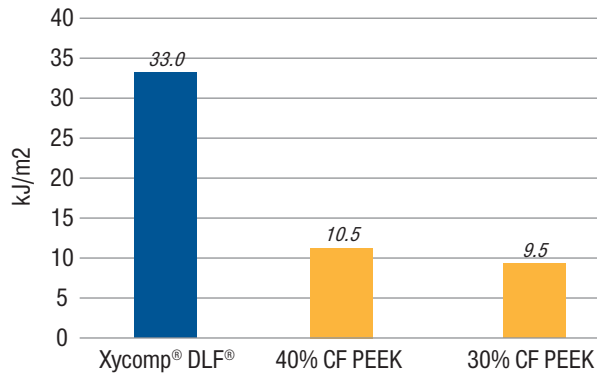
- Nacelle and engine components
- Interiors
- Aerostructures



## SELECTED BENEFITS VS. INJECTION MOLDING

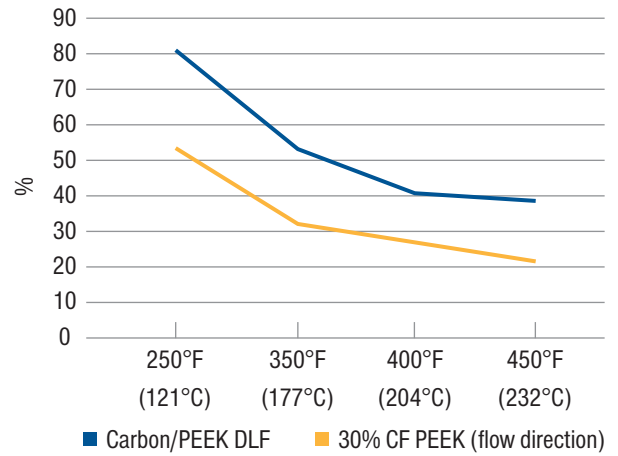
### Impact performance vs. injection molding materials

Izod impact, Xycomp® 5175 DLF® vs.  
30% and 40% CF PEEK



### Elevated temperature performance vs. injection molding materials

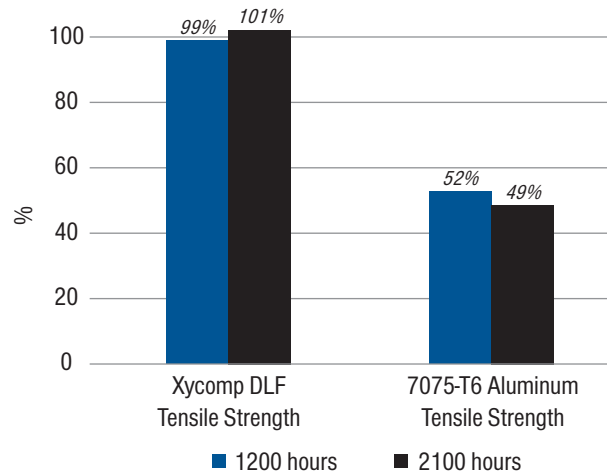
Retention of RT tensile strength at elevated temperature,  
Xycomp 5175 DLF vs. 30% CF PEEK



## SELECTED BENEFITS VS. METALS

### Thermal aging performance vs. aluminum

% Retention of properties after thermal aging at 350°F (177°C)  
Xycomp 5175 DLF vs. aluminum



### Density reduction vs. metal for weight savings

Xycomp DLF density reduction vs. metal

