

## **FOR IMMEDIATE RELEASE**

### **Composiflex Expands Capabilities to Produce Lightweight Electronics Enclosures**

*Composiflex develops targeted expertise to satisfy specialized enclosure requirements for military and avionic electronics.*

ERIE, PA (September 1, 2009) -- Amazingly sophisticated electronics have been designed for use in the combat theater. These systems are deployed to provide remote communication via satellites, allow surveillance, and endow soldiers with field intelligence such as the exact location of snipers. Accuracy, reliability, and durability are not just necessary but critical. Many of these devices are developed for man-portable use, where unit weight takes on increasing significance. Minimizing unit weight is also prime concern for enclosures housing avionics equipment.

Because of their long history in manufacturing highly engineered composite products, Composiflex has recently been sought out by a number of military electronics equipment manufacturers. The company is skilled in applying commercially-available materials to achieve required performance. However, specialized considerations come into play when designing enclosures for electronic equipment, particularly man-portable devices. Electromagnetic interference (EMI) shielding, thermal management, and radiolucence are among the design requirements of military and avionics applications. Additional factors such as impact and abrasion resistance are important when the device is intended for man-portable use.

In order to satisfy the needs of military and aerospace electronics contractors, Composiflex embarked upon a fast-paced program to expand capabilities in line with the requirements inherent in these specialty enclosure applications. Most notable is the company's success in devising an effective combination of fiber, resin, lay-up, and processing method to address MIL-STD 810 drop test requirements. Although fiber-reinforced polymer composites are not inherently impact resistant, Composiflex has produced test samples which have survived a 48" drop test, under various loads, with positive results - no cracking or visible damage of any kind. Testing continues with samples representative of enclosure corners and edges.

Several methods of achieving EMI shielding have been successfully used with composite materials. The actual material and process selected varies with the relevant frequency range, the required attenuation, and the geometric features of the enclosure. Options include plating, conductive paints, foils, meshes, and specialty composite materials.

Thermal management is not a consideration for every application. When it is a factor, the topic requires more specialized attention than the other aspects of composite enclosure design. Methods chosen are dependent upon the heat gradient and the chosen mode(s) of heat transfer. In order to address this aspect of electronics enclosure design, Composiflex has an affiliation with an expert in the field of thermal management for composite structures.

Composiflex is also partnering with a local electronics contract manufacturer, as well as a manufacturer of elastomeric shock mounts. These alliances allow Composiflex to provide more value-added services to customers who prefer to receive complete sub-assemblies, including some level of electronic componentry.

Fiber-reinforced polymer enclosures offer the potential for significant weight reductions not easily achieved using more conventional engineering materials. Leveraging their internal development work, as well as affiliations with industry experts when warranted by the specific application, Composiflex has positioned itself as a go-to supplier of advanced composite enclosures for today's sophisticated military and avionic electronics.

Visit Composiflex at MILCOM 2009 from October 18 – 21 at the World Trade Center in Boston.

About Composiflex: For nearly a quarter century, Composiflex has been an innovator in the design and manufacture of advanced high-performance composites. Specializing in custom designs, Composiflex serves the military, aerospace, ballistic protection, medical, industrial, and recreational markets. The company is characterized by its “art-to-part” projects made possible by its knowledgeable engineering staff, broad materials expertise, cost-effective rapid prototyping methods, and range of modern manufacturing technologies. Certified to ISO 9001:2000 and AS9100 standards, Composiflex conducts operations in Erie, PA, USA and is presently expanding its facilities by more than 60%.

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Contact:

Marty Matthews

(814)866-8616

[martym@composiflex.com](mailto:martym@composiflex.com)

[www.composiflex.com](http://www.composiflex.com)