



## ENGINEERED POLYMER PRODUCTS

# EXPANSIVE CAPABILITIES TO MEET YOUR NEEDS

### DESIGN

We provide full design and engineering support for unique, high performance composite structures to include structural laminate design, analysis and tool design.

We have developed a material development process that:

- Uses Tradespace Analysis to balance performance requirements
- Utilized DOE to define design boundaries
- Employs Lean Product Development tools to mitigate risk

As an example, our patented RHO-COR® composite system combines a structural composite with an elastomeric acoustic core which is tuned for specified acoustic performance. This technology is used in sonar domes and windows for improved undersea detection, location and identification capability.

### MANUFACTURING

We are skilled in composite manufacturing processes including processes unique to Collins Aerospace using:

- Oven and autoclave curing processes
- Vacuum Assisted Resin Transfer Molding (VARTM)
- Prepreg lay ups
- Rubber/laminate bonding
- Urethane casting

We have the facilities, equipment and necessary processes to support large and small scale homogenous and hybrid composites manufacturing.

### FIELD SERVICE SUPPORT

Our field service engineers and technicians support our customers by providing:

- Installation and repair of sonar domes, windows and composite structures
- Coordination of measurements including alignment/calibration, lay-out and inspection
- In-service engineering including update, upgrade and modification of all Collins products





**COMPOSITE PRODUCTS**

Our lightweight, low maintenance composite structures reduce total ownership costs because of their inherent corrosion resistance and improved fuel efficiencies gained through reduction of weight.

**URETHANES**

Collins Aerospace’s hydrolytically stable underwater acoustic materials are custom formulated to meet specific performance requirements. These can be optimized to be energy absorbing or acoustically transparent over a broad frequency range and have a shore hardness range between 40A and 96A.

We offer a family of castable elastomeric materials that are essentially transparent to sound in water. Our acoustically transparent materials can be used to encapsulate sensors in a tough protective coating, as part of an acoustic composite structure or by itself as an acoustic window. We can vary material properties such as operation frequency, bulk modulus, sound velocity and insertion loss to meet dynamic requirements of advanced surface and subsurface systems.

**OUR CUSTOMERS**

We provide services and products to a wide range of U.S. Government Program offices including NAVSEA and DARPA. We actively support a variety of SBIR programs.

We are currently delivering products for all USN classes of submarines, DDG-51 Class Destroyers, DDG-1000 Class Destroyers, CG-47 Class Cruisers, FMS Allied Navies Former FFG-7 Class Frigates as well as the commercial aviation industry.



Specifications subject to change without notice.



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