COMPOSITE CURING FOR MARINE USE

An efficient and cost-effective solution for marine/watercraft and high-end yacht builders

Application

The multi-million dollar yacht industry is utilizing composite materials to build monolithic single piece hulls for their most demanding boat designs. During manufacturing, adhesives may be used to seal windows or assemble other composite structures. Also, damage to hulls requires repair using fibers and resins that must be cured while under vacuum. These structures require only localized heat.

Solution

The portable ACR® 4 hot bonder and heating blankets provide a cost-effective tool for curing and repairing composite materials with precision and efficiency. The ACR® 4 is an all-in-one controller that provides vacuum while monitoring vacuum and heat output to ensure accurate, efficient, and quality cure cycles. The hot bonder is versatile enough to be used for manufacturing and repairing a wide variety of composite fiber structures.

The complete system consists of the ACR® 4 hot bonder, custom-sized heating blankets, insulators, and a power booster box (for large cure applications). The ACR® 4 provides a state-of-the-art system for accurate customizable ramp/soak programming. The highly flexible, yet durable, silicone rubber composite curing blankets offer extreme versatility and adaptability with an impressive operating radius of 0.25 in (6 mm) while maintaining uniform curing temperatures up to 450°F (232°C). For high temperature needs, BriskHeat's cloth series heaters accommodate up to 1100°F (593°C). The power booster box increases voltage and amperage necessary up to 480 VAC 3-phase and 100 amps. Increased voltage and amperage is often required for large cure applications in marine manufacture/repair.

To make the processes more efficient and improve performance, cloth insulators are placed on top of the heater to limit heat-loss and speed-up temperature ramp rates. This improves efficiency and curing performance by providing a higher quality cure in less time.

Key Features and Benefits

- State-of-the-art, touch-screen-based hot bonders.
- Flexible, durable, and uniform temperature heating blankets to fit the applications size.
- Power Booster Box that manages the high voltage and amperage required for large surface area cures.
- Reusable insulating blankets for increased energy efficiency.

ACR® 4 Hot Bonder

Products

ACR® 4 Hot Bonder
SR Composite Curing Heating Blankets
Power Booster Box
FGH and SXH Composite Curing Blankets

Industries

Composites/Epoxies/Resins
Manufacturing
Transportation

Types of Users

Composite Repair Technicians
Manufacturing Engineers
Repair/Process Design Engineers
Production Personnel