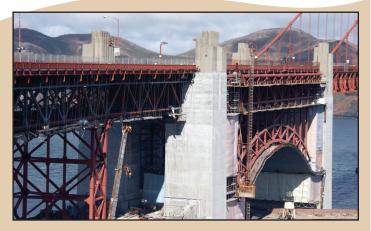


# **Composite Solutions**

### Rhino<sup>™</sup> 1310T Composite Systems

Rhino<sup>™</sup> 1310T epoxy composites are non draining, 100% solids systems that provide maximum flexibility for a variety of reinforced epoxy composites. Whether performing fiberglass infrastructure reinforcement, seismic retrofits, or the repair of failing conventional concrete/rebar structures, Rhino<sup>™</sup> 1310T forms a matrix; in which carbon or glass fiber is saturated then woven together to add structural reinforcement.



#### **Fiberglass Infrastructure Reinforcement**

Rhino fiberglass infrastructure reinforcement and seismic retrofit last longer and incur a fraction of the cost and time it takes to achieve the same results using conventional materials and techniques.

Rhino carbon fiber wrap and blast mitigation solutions are currently being used in numerous concrete, masonry, steel, and wood structures to increase strength and durability.

#### **Features & Benefits**

- Less weight / lower thermal expansion
- Greater fatigue resistance & strength reinforcement
- Flexible carbon fiber wrap conforms to any shape

#### **Applications**

- Civil Infrastructure seismic upgrades / blast mitigation (concrete, beams, columns, pipes)
- Carbon wrap of fiber or glass filament winding (pressure tanks, vessels)
- Construction equipment
- Bridges and piers
- Fuel tank sealers





Rhino Linings

1-800-422-2603 www.rhinolinings.com

 Rhino Linings Corporation

 9151 Rehco Road, San Diego, CA 92121

 858-450-0441 • Fax 858-450-6881

In the Vacuum Assisted Resin Transfer Molding (VARTM) composite manufacturing process, dry fibers are laid on the tool and vacuum sealed while Rhino<sup>™</sup> 1310T liquid resin and hardener are then drawn through with a vacuum pump.





Vacuum Assisted Resin Transfer Molding

## Vacuum Assisted Resin Transfer Modling (VARTM)

Rhino's VARTM is a closed process; in which resin is pulled into the mold by negative pressure and impregnates the fibers already laid out in the mold. This liquid resin technology provides for lower cost and lower cure temperatures.

Since the liquid resin techniques do not require curing cycles over 140°F (60°C), the tooling for the blades is much easier to construct. Liquid resin infusion forms a uniform composite of nearly ideal 65% fiberglass to 35% resin by weight.

#### **Features & Benefits**

- Increased flexibility and reduced process time
- Reduces installation time (eliminating heavy equipment)
- Fabrication of large scale composite structures
- Better control of glass to resin content
- Smaller crew for lamination steps
- Consistent production
- Less odor during curing
- Uses simple tooling

#### **Applications**

- Manufacture wind energy rotor blades
- Manufacture water crafts (power boats, jetskis, kayaks)
- Manufacture sporting equipment (snow boards, tennis rackets, motorcycle helmets)





Rhino Linings Australasia Pty Ltd ..... +61 7 5585 7000 (Asia and Australia)

Rhino Linings Canada, Inc	1-866-447-1471
Rhino Linings Europe	+49 6103 936474
(Africa, Europe and Middle East)	
Rhino Linings Latin America	+52 55 5632 0195
(Mexico, Caribbean, Central and South America)	

The performance of these products are dependent upon their correct application onto surfaces for which they are intended and used strictly in accordance with proper instruction. The photos depicted in this brochure are shown for illustration purposes only and are not intended to represent particular applications or methods. Dealerships are independently owned and operated. ©2009 Rhino Linings Corporation. All rights reserved. 5460 060809