



## Advanced Composite Wrap For Damaged Pipeline Repair

**CORROSION REPAIR  
STRUCTURAL REINFORCEMENT  
DENT/GOUGE REPAIR  
GOES OVER AND AROUND TEES, ELBOWS  
AND WELDS  
AVAILABLE IN CARBON FABRIC**



**DOT QUALIFIED & NSF/ANSI CERTIFIED  
CAN BE APPLIED AT FULL PRESSURE  
NO MIXING OR FABRIC SATURATING  
FAST FOOLPROOF INSTALLATION  
CONFORMS TO ASME PCC-2 STANDARD  
REQUIREMENTS**





Aquawrap® is a low cost composite system for use in repair and reinforcement of existing mechanical systems, structures and piping. Furnished factory-impregnated with our proprietary urethane resin systems, it is odorless and non-flammable. Aquawrap® is ready to apply, right out of the bag and cures by way of a chemical reaction with field-applied water. When cured, it is a very durable, high strength material that is impervious to fuels, most chemicals and solvents. It permanently bonds to a wide variety of surfaces such as metals, composites, concrete, plastics, and wood.

Aquawrap® is available in a several E-glass and carbon fabrics to satisfy a wide variety of application situations. The unique urethane resin system has excellent long term strength characteristics and toughness. It has been tested to and meets the requirements of the ASME PCC-2 composite piping reinforcement standard.

Furnished resin-wetted and uncured, in rolls, (see photo, below) Aquawrap® ships to the field inside hermetically sealed metalized pouches. To use the product, you just tear open the pouch and start wrapping or laying up onto the surface to be repaired or encapsulated. Initial hardening happens in about an hour, with substantial strength increasing over the next few hours.

## **FEATURES**

- **Low Cost**
- **Uses a Water-activated Polyurethane Resin**
- **Simple and Easy to Use – Just “Rip & Wrap”**
- **Cures in Wet Conditions and Underwater**
- **Many Different Widths and Lengths**
- **Excellent Toughness – Resists Cracking**
- **Heat Resistant to 250° F.**
- **Non-Hazardous**
- **30-Minute Working Time, Perfect for Long Installations**
- **High Strength**
- **Can be applied over a wide temperature range**





## General Characteristics

- Tg. - 288 F.
- Working Time - 60 minute package open time, depending on ambient humidity
- Cure Time - 30 minutes nominal, after water application
- Chemical Resistance - Resistant to acetone, mek, toluene, gasoline, ethyl alcohol and many others
- Adhesion - 1,000 psi (lap shear) to abraded carbon steel, using Air Log BP-1 primer
- Heat distortion Temperature - >325 F.

## Fabric Summary

- G-03 A light weight custom woven glass fabric for general purpose use.
- G-05 A heavy weight custom woven glass fabric for larger diameter piping and structures.
- G-22 This highly conformable Bear™ knitted glass fabric is for use on complicated geometry systems such as tee's, couplings and valves
- C-2 A custom sewn bi-axial carbon fabric for use there high strength and/or modulus is required

## Properties Summary

Product	G-03	G-05	G-22 Bear™	C-2
Reinforcement	Woven bi-axial glass	Woven bi-axial glass	Knitted glass	Bi-axial carbon
Cured wrap thickness mils.	16	28.5	38	30
Tensile strength warp direction ksi.	60900	45500	31555	76189
Tensile strength fill direction psi.	32429	45500	31555	61663
Tensile modulus warp direction msi.	3.02	2.28	1.98	4.56
Tensile modulus fill direction msi.	2.16	2.28	1.98	4.50
Long term tensile load per ply lbs/in	465	600	623	1665

## Product Testing Summary

The FACS™ group has completed extensive testing of our Aquawrap® products. These tests include but are not limited to the following:

- Standard properties testing such as tensile and compressive strength and modulus, CTE, HDT, lap shear strength, etc.
- Long term creep rupture strength.
- Various long term exposure tests in salt water, acid and alkaline solutions.
- Thermal cycling.
- Tensile properties at elevated temperatures
- Tensile load cycling
- Impact resistance
- A wide variety of pipe burst tests
- Repair of pipes with dent gouge defects



## INDUSTRIES SERVED

- Petro-chemical plants
- Power Generation
- Chemical Plants
- Mining
- Industrial
- Pulp and Paper
- Liquid and Gas Transportation
- Production Facilities
- Water and Wastewater Treatment

## DESIGN CALCULATIONS AND INSTALLATION ASSISTANCE

Design recommendations and calculations pursuant to ASME PCC-2 standard are available.

Assistance in the planning of installations in order to achieve the best installation at minimum labor cost is also available

For especially difficult installations factory personnel are available to staff the field work at minimal expense.

For technical support or questions regarding an application, installation, or product capability, please contact us at 626-633-0294.

## DISTRIBUTION AND INSTALLATION SERVICES

Distributors are located throughout the United States, Asia, and Europe.

Professional installation services provided by qualified personnel are available through our business partners. Call us for information on a service provider in your area.

*Strengthening Your Future... Layer by Layer*



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