

TRANS-WRAP™

CARBON FIBER PIPELINE REPAIR SYSTEM



Description

Trans-Wrap™ is a bidirectional non-woven 100% carbon fiber composite, saturated with NRI's proprietary epoxy system, Thermo-Poxy™. The Trans-Wrap carbon fiber is oriented in the 0° / 90° directions and is stitched resulting in outstanding tensile values in both directions. It has a high thickness per layer resulting in fewer layers needed for reinforcement and quicker applications. The Thermo-Poxy Epoxy system is a two-part, 100% solid epoxy designed for use in a wide variety of environments possessing excellent chemical resistance and high temperature ratings.

Mechanical Properties

Test	Method	Result
Tensile Strength	ASTM D3039	Hoop: 130,000 psi (8,963.18 bar) Axial: 130,000 psi (8,963.18 bar)
Elongation @ Break	ASTM D3039	1.46%
Tensile Modulus	ASTM D3039	7,144,000 psi (492,561.5 bar)
Laminate Thickness	Per layer	0.035" (0.889 mm)
Hardness, Shore D @ 75°F (24°C)	ASTM D2240	85

Syntho-Subsea™ LV Primer Epoxy Mechanical Properties

Test	Method	Result
Tensile Strength	ASTM D3039	6,000 psi (413.68 bar)
Compression Strength	ASTM D695	7,380 psi (508.83 bar)
Flexural Strength	ASTM D790	4,550 psi (313.71 bar)
Flexural Modulus	ASTM D790	142,188 psi (9803.51 bar)
Lap Shear Strength	ASTM D3163	1,782 psi (122.86 bar)
Abrasion Resistance	CS17 wheels with 1,000 gram weights	34.0 mg/1,000 cycles

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Typical Applications

- Pipeline Repair
- Containment and shear reinforcement
- Bridge column repair
- Pile repair

Benefits

- Long working time even in hot environments
- High temperature rating with an ambient cured epoxy
- Thick laminate for cost effective installation
- Applicable in damp and wet environments
- High strength and light weight
- Manufactured in ISO 9001 certified facility
- Full factory engineering calculations, consultation, and support ensuring safe and successful repairs

Thermo-Poxy Epoxy Physical Properties

VOCs: None

Pot Life: 75 Minutes at 75°F (24°C)

Working Time: 45 Minutes at 75°F (24°C)

Gel Time: Approx.

161 Minutes at 75°F (24°C)

Set Time: 4 Hours at 75°F (24°C)

Resin Application:

Field mixed and saturated

Service Temperature:

-50° to 250°F (-45° to 121°C)

Shelf Life: 12 Months with recommended storage methods

