

TITAN™XT

FIBERGLASS/EPOXY COMPOSITE SYSTEM FOR INFRASTRUCTURE REPAIR



Description

NRI's epoxy based infrastructure repair system is a custom engineered composite system that utilizes a high strength bidirectional (0°/90°), woven fiberglass tape in combination with NRI's proprietary epoxy resin formulation. This unique composite is used to repair and reinforce concrete structures without expensive and time-consuming rebuilding cost. The development of this system was designed to conform to ACI440 standards for nonmetallic composite reinforcing solutions of concrete. The superior performance values of the epoxy based system give you the tensile strength of a carbon fiber composite at a price of a fiberglass composite solution. By incorporating proprietary load transfer and bonding technologies developed by NRI, this results in a highly effective system capable of repairing concrete in the toughest conditions.

Mechanical Properties

Test		Method	Result
Tensile Properties	Strength	ASTM D638	0°: 101,500 psi (6,998 bar) 90°: 35,700 psi (2461 bar)
	Modulus	ASTM D638	0°: 4.48 msi (308,885 bar) 90°: 2.32 msi (159,958 bar)
Flexural Properties	Strength	ASTM D790	0°: 121,700 psi (8,390 bar) 90°: 54,500 psi (3,757 bar)
	Modulus	ASTM D790	0°: 4.18 msi (288,200 bar) 90°: 2.35 msi (162,026 bar)
Shear Properties	Strength	ASTM D5379	0°: 13,000 psi (2,896 bar) 90°: 10,000 psi (690 bar)
	Chord Modulus	ASTM D5379	0°: 629 ksi (43,368 bar) 90°: 683 ksi (162,026 bar)
Hardness, Shore D		ASTM D2240	74
Lap Shear Strength		ASTM D5379	3,150 psi (217 bar)

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Typical Applications

- Concrete pipe supports
- Piers and pilings
- Bridge columns
- Concrete/Steel columns, beams, slabs

Benefits

- No VOCs minimizes potential safety hazards while making the entire installation user-friendly
- Full factory engineering consultation and support, ensuring safe and successful repairs
- Eliminate field saturation problems by using NRI's patented field impregnation machine
- Consistent resin-to-fiber ratios crucial to performance and reliability
- Application to irregular shapes and odd geometries

Physical Properties

VOCs: None

Service Temperature:

-50° to 300°F (-46° to 150°C)

Application Temperature:

50° to 200°F (10° to 93°C)

Working Time: 2 hours @ 75°F (24°C)

Cure Time: 18 Hours @ 75°F (24°C)

Resin Type:

Two-Part, 100% Solids, Proprietary
Epoxy Resin Formulation

Resin Application: Field-Impregnated

NRI
Innovative Composite Solutions