

SYNTHO GLASS[®] XT

EXTREME STRENGTH, FIBERGLASS COMPOSITE SYSTEM

Description Syntho-Glass[®]XT system is a unique pre-impregnated, bi-directional composite used to repair and reinforce both internal and external corrosion on pipes or structures. Our factory-saturated product ensures proper fiber-to-resin content ratios which are crucial to reliable performance.

- Typical Applications**
- Pipeline integrity
 - Transmission and distribution pipe lines
 - Oil and gas risers
 - Girth welds on vessels and pipelines
 - Straights, elbows, tees, and flanges
 - Process piping: chemicals, oil, gases, water, and steam
 - Atmospheric corrosion

- Benefits**
- Moisture-cured polyurethane resin reduces composite preparation time by over 50%
 - Non-shielding
 - Pre-saturation optimizes fiber-to-resin ration and provides a material with a constant strength property
 - Can be applied to damp, sweating, or immersed surfaces
 - No heating or post-curing required
 - Can be applied to any geometry including, but not limited to elbows, Tees, and flanges
 - Design conforms to ASME PCC-2, ASME B31, ISO TS24817, DOT, API, and CSA Z662 standards for nonmetallic reinforcing solutions

Theoretical Coverage As determined by NRI engineering calculations

Thickness As determined by NRI engineering calculations

Mixing & Mix Ratio No mixing required

Pot Life 20 minutes @ 75°F (24°C), less at higher temperatures

Limitations Application temperature: minimum of 40°F (4°C) and maximum of 150°F (66°C)
Maximum service temperature: 194°F (90°C)

- Related Products** The following products are system components of the Syntho-Glass XT system:
- Filler: Syntho-Poxy[™]HC, Syntho-Steel
 - Anti-Corrosion Primer: Syntho-Subsea[™]LV Epoxy
 - UV protection: Syntho-Coat or Syntho-Glass[®]UV
 - Compression Film

Properties	Property	Circumferential Direction	Axial Direction
	Tensile Modulus	3.59 Msi (24.78 GPa)	1.96 Msi (13.51 GPa)
	Thermal Expansion Coefficient	6.47 ppm/°F (11.65 ppm/°C)	29.00 ppm/°F (52.2 ppm/°C)
	Property	Typical Test Values	
	Hardness, Shore D	83	
	Laminate Thickness	0.013" (0.33mm)	
	Poisson Ratio	0.1326	
	Energy Release Rate	0.525 in-lb/in ² (92 J/m ²)	

Design Syntho-Glass XT was designed to conform to ASME PCC-2, ASME B31, ISO TS24817, DOT, API, and CSA Z662 standards for nonmetallic reinforcing solutions. Consult NRI Engineering for specified use.



SYNTHO-GLOSS[®] XT

EXTREME STRENGTH, FIBERGLASS COMPOSITE SYSTEM

SYNTHO-GLOSS[®] XT
EXTREME STRENGTH, FIBERGLASS REPAIR SYSTEM

Surface Preparation Surface preparation and profiling shall promote continuous intimate contact between the FRP system and pipe by providing a clean, smooth, and circumferential surface. Surface preparation shall be in accordance with SSPC-SP1 "Solvent Cleaning" and SSPC-SP11 "Power Tool Cleaning" with a 1-3 mil surface roughness (25-75 microns) minimum. If existing coating is present, roughen to degloss. NRI's composite repair systems are bond-critical and require a strong adhesive bond between the clean pipe and the composite system.

Installation Installation of the Syntho-Glass XT System shall be performed by NRI qualified applicators only. Surface preparation, mixing of epoxy, and installation of the system are to be in accordance with NRI's Syntho-Glass XT Installation Guide, latest revision. Quality control inspection during and after installation of the Syntho-Glass XT system shall be performed per NRI's Installation Validation Procedure: Quality Control Records, latest revision.

Cure Schedule

Temperature	Working Time	Set Time
50°F (10°C)	60 minutes	120 minutes
60°F (16°C)	40 minutes	75 minutes
75°F (24°C)	20 minutes	40 minutes
90°F (32°C)	12 minutes	20 minutes
150°F (66°C)	2 minutes	10 minutes

Measure Shore D hardness to confirm full set has been achieved before returning line to service.

Cleanup and Safety For proper information regarding the safe handling, storage, and disposal of chemical products, users shall refer to the most recent SDS, latest revision, containing physical, ecological, toxicological, and other safety-related data.

Shelf Life 12 months

Storage Conditions Store in original, unopened packaging, indoors at a max temp of 95°F (35°C).

Packaging Syntho-Glass XT is available in sizes ranging from 2" (5cm) to 12" (30cm) in width and 15' (4.6m) to 90' (27.4m) in length.
Typically ships in 17" x 15" x 14" boxes (43cm x 38cm x 36cm)
Refer to individual data sheets for system components' product packaging

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