

THERMO-FILL™ HT

CARBON NANOTUBE REINFORCED EPOXY FILLER

FOR USE WITH THERMO-WRAP™ INSPECTABLE SYSTEM

Description	Thermo-Fill™ HT is a two-part, carbon nanotube reinforced epoxy filler designed to bond and repair materials that will be exposed to temperatures up to 300°F (149°C). Thermo-Fill HT contains no solvents, is non-toxic and easily prepares for application in a variety of industrial maintenance applications. When fully cured, Thermo-Fill HT produces a durable, resilient bond resistant to hydrocarbons, ketones, alcohols, esters, halocarbons, aqueous salt solutions and dilute acids and bases.
Typical Applications	<ul style="list-style-type: none"> • Fills corrosion pits • Profiling • Geometric restoration • Designed for high temperature applications
Benefits	<ul style="list-style-type: none"> • Temperature resistance up to 300°F (149°C) • No shrinking • No tools required, apply using spatula or trowel
Coverage	Sold based on volume required
Mixing & Mix Ratio	Mix Part A, then combine with Part B and mix together. Do not mix partial kits. Resin to hardener 3:1 by weight.
Pot Life	30 minutes @ 75°F (24°C), less at higher temperatures
Limitations	<ul style="list-style-type: none"> • Application temperature shall be a minimum of 50°F (10°C) and maximum of 280°F (138°C) • Relative humidity must be 85% or below • Pipe surface must be 5°F (-15°C) above dew point
Related Products	Thermo-Fill HT can be used with the following: <ul style="list-style-type: none"> • Composite Systems: Thermo-Wrap™ Inspectable and Thermo-Wrap™ CF • UV Protection, if necessary: Syntho-Coat™

Properties	Property	Typical Test Value
	Solids Content	100%
	Glass Transition Temp (T _g)	360°F (182°C)
	Modulus of Elasticity	400 ksi (2.78 GPa)
	Elongation to Break	1.8%
	Tensile Adhesion	5,000 psi (34.5 MPa)
	Lap Shear Strength	925 psi
	Mix Ratio	Pre-Measured 3:1 By Weight
	Electrical Conductivity	Insulator—Below Percolation Threshold
	Gel Time @ 70°F (20°C)	60 minutes

Surface Preparation Surface preparation and profiling shall promote continuous 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 (25-76 microns) minimum. NRI's composite repair systems are bond-critical and require a strong adhesive bond between the clean pipe and the composite system for maximum effectiveness.



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Installation Surface preparation, mixing of epoxy, and installation shall be in accordance with NRI's Installation Guide, latest revision.

Cure Schedule	Temperature	Working Time	Cure to Set
	50°F (10°C)	1.75 hours	12 hours
	60°F (16°C)	1.25 hours	6 hours
	75°F (24°C)	35 minutes	3 hours
	90°F (32°C)	17 minutes	1.5 hours
	150°F (66°C)	5 minutes	30 minutes
	200°F (93°C)	2.5 minutes	15 minutes
	280°F (138°C)	15 seconds	30 seconds

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

Cleanup and Safety In case of spillage, absorb and dispose of in accordance with local applicable regulations. Read and follow all caution statements on this product data sheet and on the SDS for this product. Wear protective clothing, gloves and use protective cream on face, hands and all exposed areas. When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. User should test and monitor exposure levels to insure all personnel are below guidelines.

Shelf Life 12 months

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

Packaging

- Supplied in half pint, pint, quart, half gallon, and gallon containers
- Typically ships in 17" x 15" x 14" boxes (43cm x 38cm x 36cm)

Warranty ©Neptune Research Inc. (NRI) NRI® is a registered trademark, while Thermo-Wrap™, Thermo-Wrap™ Inspectable, Thermo-Wrap™ CF, Thermo-Fill™ HT, Thermo-Poxy™ and Syntho-Coat™ are trademarks of NRI. NRI utilizes a process of continuous product improvement for all of our products. While we do strictly adhere to our products' specifications, we routinely implement product improvements. Therefore, please contact your local NRI distributor or office for the most current product specifications. NRI warrants the quality of this product when used according to directions. Apply protective coatings per company standards. User shall determine suitability of product for use and assumes all risk. The seller will not accept liability for more than product replacement.

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