

TECHNICAL DATA SHEET

NPR-4501 EPOXY

Epoxy System for Medium Diameter CIPP

Rev. 20251215



DESCRIPTION

Neopoxy NPR-4501 Epoxy is a two-part 100% solids epoxy coating specially designed for medium diameter cured-in-place-pipe (CIPP) applications. Fast curing formulation (ambient or heat cure) and high thixotropy allow for fast wet out and high efficiency production. Less rapid wet out rates can be achieved with fiberglass reinforcement (FRP). Hydrophobic properties allow for effective curing in the presence of moisture. NPR-4501 Epoxy demonstrates excellent chemical resistance to sulfuric acid, nitric acid, sodium hydroxide, hydrogen sulfide, caustics, gasoline, and other hydrocarbons.

FEATURES

- Fast-curing formula for medium diameter CIPP
- 100% solids, solvent free, no VOCs
- Chemical and corrosion resistant
- Very strong surface bond
- Protects for decades

USES

- Impregnation of cure-in-place-pipe liners (CIPP) for pipe rehabilitation
- NPR-5305 Epoxy may be used for CIPP end sealing

CIPP EPOXY OPTIONS

Product	Application	Initial Cure Time 100 Grams @ 77°F (25°C)
NPR-5701	CIPP Fast-Curing Epoxy System	30 Minutes
NPR-4501	CIPP Medium Diameter Epoxy System	55 Minutes
NPR-1701	CIPP Medium Diameter Epoxy System	2 Hours
NPR-1571	CIPP Large Diameter High Heat Epoxy System	8 Hours

PHYSICAL PROPERTIES

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Description	Standard	Data
Mix Ratio (Resin/Hardener)	-	1 to 1 by Weight
Initial Cure Time, 100 Grams @ 77°F (25°C)	-	55 Minutes
Initial Cure Time, 100 Grams @ 140°F (60°C)	-	30 Minutes
Weight Per Gallon (Resin)	-	9.6 - 9.8 Lbs
Weight Per Gallon (Hardener)	-	12.6 - 12.9 Lbs
Weight Per Gallon (Mixture)	-	11.1 - 11.4 Lbs
Specific Gravity (Resin)	-	1.15 - 1.17 G/ml
Specific Gravity (Hardener)	-	1.51 - 1.54 G/ml
Specific Gravity (Mixture)	-	1.33 - 1.36 G/ml
Viscosity, Resin @ 20 RPM, 77°F (25°C) (Brookfield Spindle LV-4 [64])	-	11,000-15,000 cPs
Viscosity, Hardener @ 20 RPM, 77°F (25°C) (Brookfield Spindle LV-4 [64])	-	8,000-12,000 cPs
Viscosity, Mixture @ 20 RPM, 77°F (25°C) (Brookfield Spindle LV-4 [64])	-	6,000-8,500 cPs
Shore D Hardness*	ASTM D-2240	>82
Barcol Hardness*	ASTM D-2240	>25
Thixotropic Index	ASTM D-2240	>3.0
Volatile Organic Compounds (VOCs)	ASTM D-3960	0.0 Lbs/Gallon

**3mm PET Felt Laminate Cured at 140°F (60°C) for 4 hours.*

Description	Standard	PET Felt Laminate Cured at 140°F (60°C)	PET Felt Laminate Cured at 77°F (25°C)	Fiberglass Laminate Cured at 140°F (60°C)
Flexural Modulus	ASTM D-790	650,000 psi	620,000 psi	1,100,000 psi
Flexural Strength	ASTM D-790	7,000 psi	6,700 psi	32,500 psi
Young's Modulus	ASTM D-638	600,000 psi	580,000 psi	1,597,000 psi
Tensile Strength	ASTM D-638	5,000 psi	4,500 psi	8,700 psi
Tensile Elongation	ASTM D-638	1.4	1.5	0.5

ADDITIONAL PRODUCT INFORMATION

SAFETY: Use of safety goggles, particle masks, coveralls, and chemical resistant gloves is recommended. Work in a clean, well-organized area with adequate ventilation. Keep uncured product containers tightly closed and away from children at all times. Please read and understand the full safety recommendations as set forth in the Safety Data Sheets (SDS) available on our website.

ENVIRONMENTAL: Neopoxy epoxies are comprised entirely of reactive solids (resin & hardener), which means that there are no solvents or thinners that evaporate during the curing process. Since the curing process binds all reactive components, the cured epoxies are inert, non-leeching, and safe for use on stormwater infrastructure, wastewater infrastructure, or for discharge into a wastewater treatment facility or natural body of water. Prior to mixing the epoxy, the applicant must handle the uncured resin and hardener with care and clean up any spills in accordance with local environmental regulations. For additional information please reference Safety Data Sheets (SDS) available on our website.

SHELF LIFE & STORAGE: Store product in closed container at 40°-80°F. Shelf life is one year from the manufacture date indicated on label.

WARRANTY & DISCLAIMER: Neopoxy LLC ("Neopoxy") warrants its products to be free of manufacturing defects in accordance with our internal quality control program. To the best of our knowledge the technical data contained herein is true and accurate on the date of publication. All Neopoxy products come with a manufacturer's product warranty active for one-year from date indicated on product label. This warranty exclusively covers Neopoxy products proven by the purchaser to be defective, up to but not exceeding either the purchase price of the product or a full replacement of the product. Neopoxy's warranty does not cover defects that arise from the contractor's improper storage, transportation, mixing, application, and/or workmanship. Our recommendations should not be taken as inducements to infringe any patent or violate any law, safety code, or insurance regulation.

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