Neopoxy LLC
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NPR-4501
CIPP Medium Diameter Epoxy System

NPR-4501 is a corrosion resistant, ambient or heat curable, high modulus, chemical resistant epoxy resin designed to suit the special handling requirements of the cured-in-place pipeline rehabilitation. The resin has relatively short pot life. Good cure in the presence of water. Very fast wet out and high thixotropy makes NPR-4501 ideal for high efficiency production. Less rapid wet out rates are experienced with fiberglass reinforcement (FRP). The epoxy has extremely low odor and contains no solvents. Color is white or red after mixing.

Typical Physical Properties

Typical Liquid Resin Properties

Specific Gravity (resin)	1.15 – 1.17 G/ml
Weight Per Gallon (resin)	9.6 – 9.8 Lbs
Specific Gravity (hardener)	1.51 – 1.54 G/ml
Weight Per Gallon (hardener)	12.6 – 12.9 Lbs
Specific Gravity (mixture)	1.33 – 1.36 G/ml
Weight Per Gallon (mixture)	11.1 – 11.4 Lbs

Typical Properties, 77°F (25°C)

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**
Hardness (Shore D)	$\geq$ 82
Hardness (Barcol)	$\geq$ 25
Thixotropic Index (2/20 rpm)	$\geq$ 3.0

Viscosity (Brookfield LV), 77°F (25°C) @ 20rpm, spindle #4

Resin	11,000 – 15,000 cPs
Hardener	8,000 – 12,000 cPs

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Resin/Hardener Mixture	6,000 – 8,500 cPs

Typical 140°F (60°C) Cured PET Felt Laminate Properties

Flexural Modulus (psi)	650,000
Flexural Strength (psi)	7,000
Young's Modulus (psi)	600,000
Tensile Strength (psi)	5,000
Tensile Elongation (%)	1.4

Typical 77°F (25°C) Cured PET Felt Laminate Properties

Flexural Modulus (psi)	620,000
Flexural Strength (psi)	6,700
Young's Modulus (psi)	580,000
Tensile Strength (psi)	4,500
Tensile Elongation (%)	1.5

Typical 140°F (60°C) Cured Fiberglass Laminate Properties

Flexural Modulus (psi)	1,100,000
Flexural Strength (psi)	32,500
Young's Modulus (psi)	1,597,000
Tensile Strength (psi)	8,700
Tensile Elongation (%)	0.5