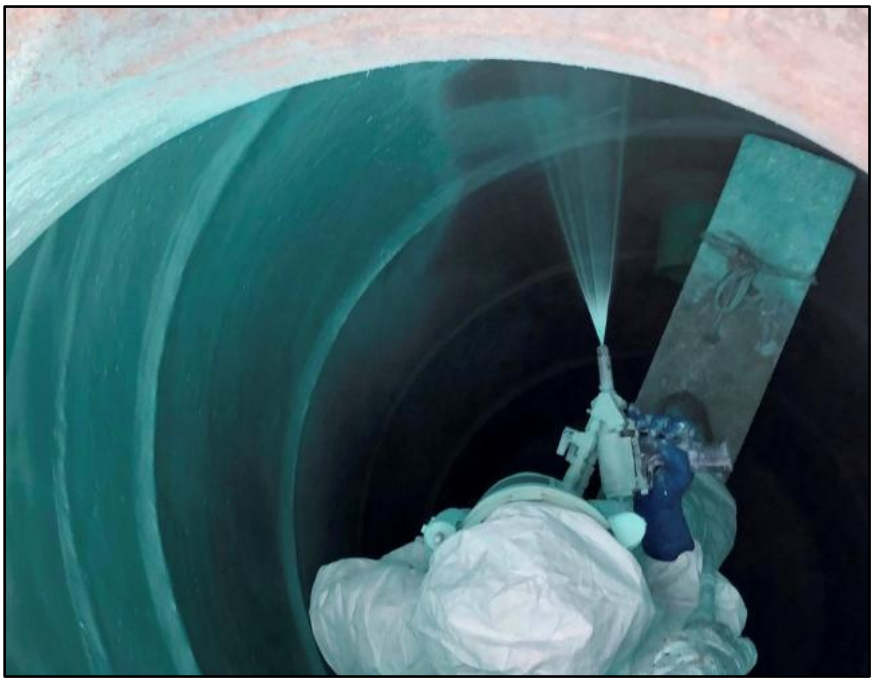
INFORMATIONAL CATALOG
NEOPOXY WASTEWATER EPOXIES
Structural Epoxy Systems for Infrastructure Protection
Rev. 20251215

DESCRIPTION

This document is intended to provide information regarding Neopoxy epoxies for wastewater infrastructure repair. Please reference Technical Data Sheets (TDS) and Safety Data Sheets (SDS) for additional information regarding individual product lines.

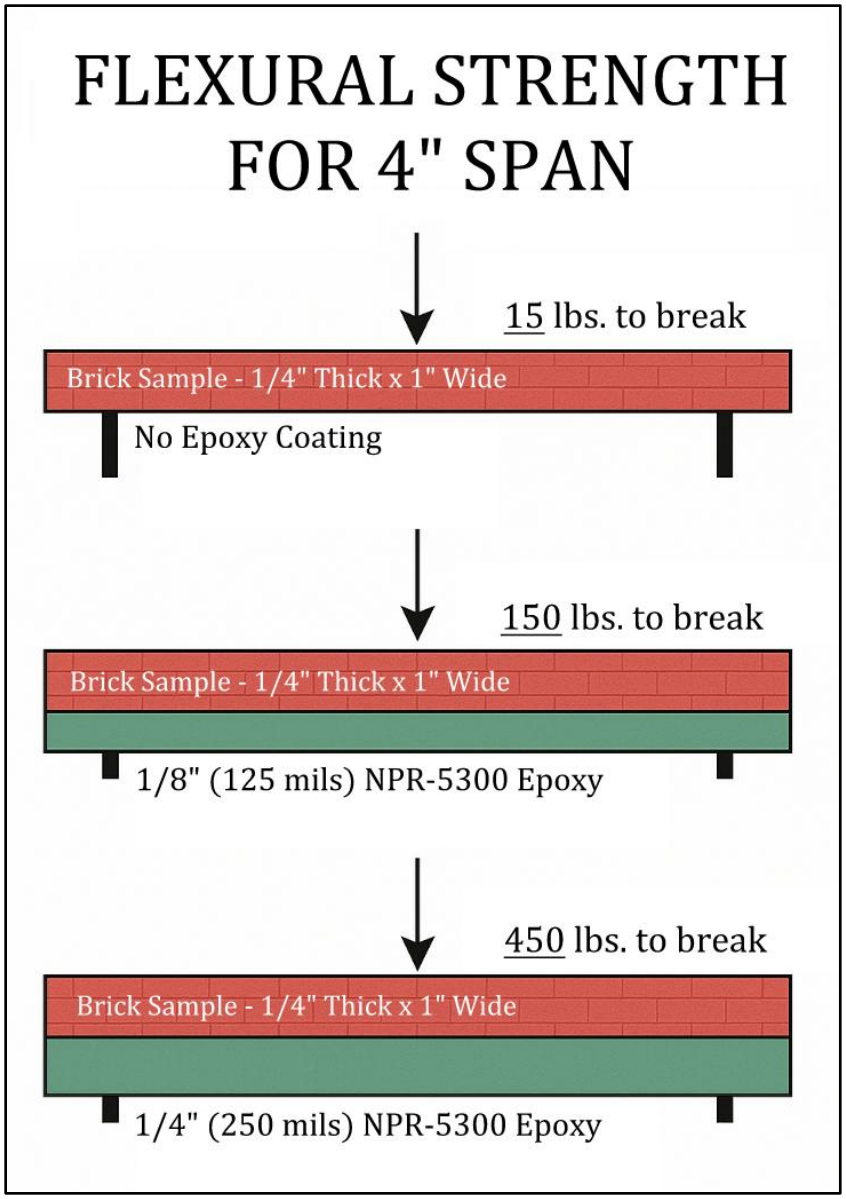
Protection and rehabilitation of wastewater infrastructure has been at the core of Neopoxy's business for over two decades. Neopoxy NPR-5300 Series Epoxies consistently rank highest among the competition in strength, chemical resistance, and long-term durability. Paired with Neopoxy NPR-3200 Series PVC Adhesives, NPR-5300 can serve as a universal coating solution for nearly any wastewater infrastructure need. These specialized Neopoxy products have been used worldwide for thousands of wastewater projects, ranging from small pipelines to large municipal wastewater treatment facilities. Major infrastructure contractors and municipal engineers alike consistently turn to Neopoxy for unmatched performance and reliability.



CONTENTS

EPOXY LOAD BEARING STUDY

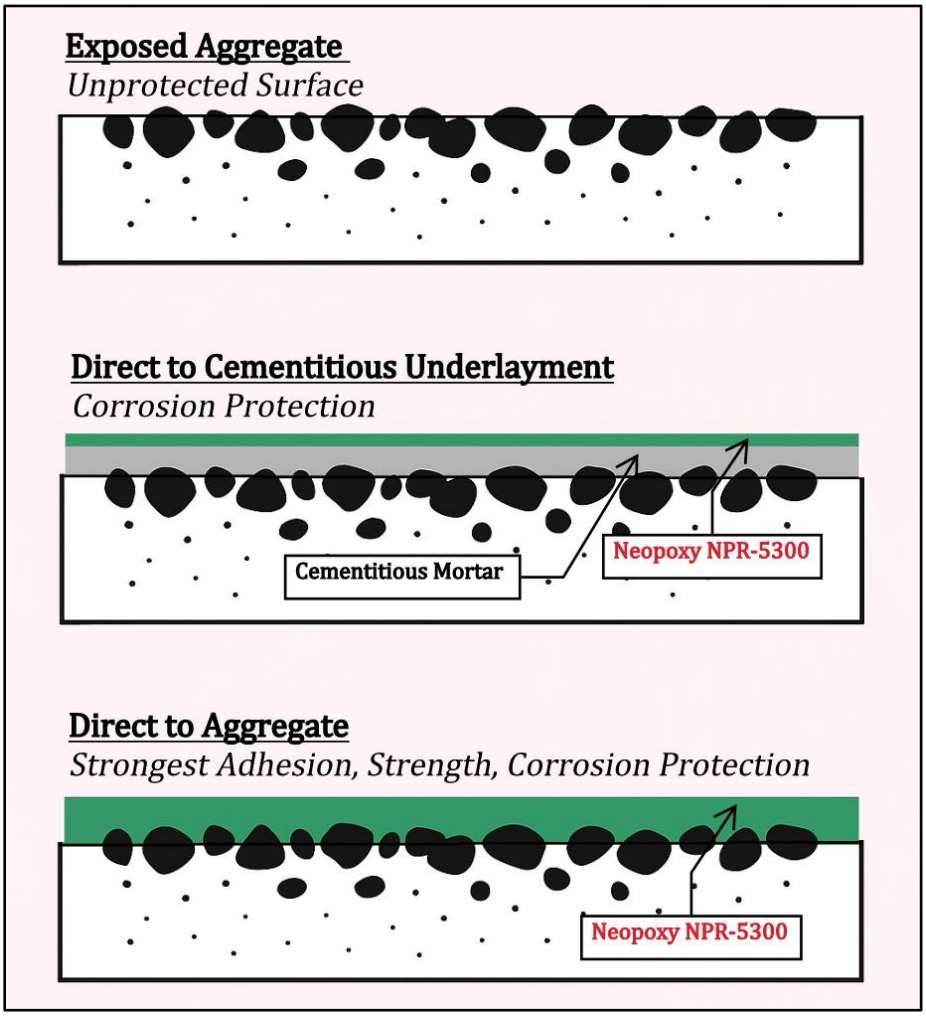
Brick samples were cut into strips of 1" width and ¼" thickness. Neopoxy NPR-5303 Medium Viscosity Epoxy was then applied to separate sample strips at a thickness of 125 mils (1/8") and 250 mils (1/4"). All samples (including an uncoated control sample) were then tested for flexural strength on a calibrated Instron materials testing machine. This test is known as ASTM D-790 and involves placing a sample on metal supports separated by 4" and pushing down on the center of the sample until breakage. As can be seen by the results below, the NPR-5300 coating dramatically increases the flexural strength of the brick samples. The same test completed with concrete samples produced nearly identical results.



HIGH BUILD EPOXY & DIRECT TO AGGREGATE APPLICATION

While cementitious mortar can be used to smooth a rough aggregate surface prior to the application of an epoxy topcoat, applying epoxy "direct to aggregate" reduces labor costs and provides a much more durable coating with greater bonding strength.

Typically, a standard 125 mil epoxy topcoat provides an effective corrosion resistant barrier to common sewer gases and concentrations of sulfuric acid. Applying a thicker coat of 250 mils or above directly to the protruding surface aggregates greatly increases the ability of the lining to resist physical abuse by pipeline maintenance equipment as well as external pressures (see "Epoxy Load Bearing Study" on previous page). Neopoxy NPR-5304 and NPR-5305 epoxies are specifically designed to be used as a high build structural liner that can be applied directly to nearly any concrete surface.



CONCRETE SURFACE COATING GUIDE

Surface Type #1 – Smooth Concrete

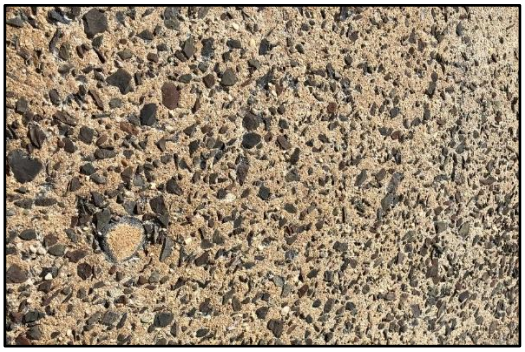
Apply NPR-5300 at minimum thickness of 125 mils

Surface Type #2 – Rough Concrete

Apply NPR-5300 at 150-200 mils, enough for minimum thickness of 125 mils.

Surface Type #3 – Concrete with Minimally Protruding Aggregate

Apply NPR-5300 at 150-250 mils, enough for minimum thickness of 125 mils.



Surface Type #4 – Concrete with Voids, Bug Holes, and/or Areas of Spalling

Infill voids with hand-applied NPR-5305. Once cured, apply NPR-5300 at minimum thickness of 125 mils.

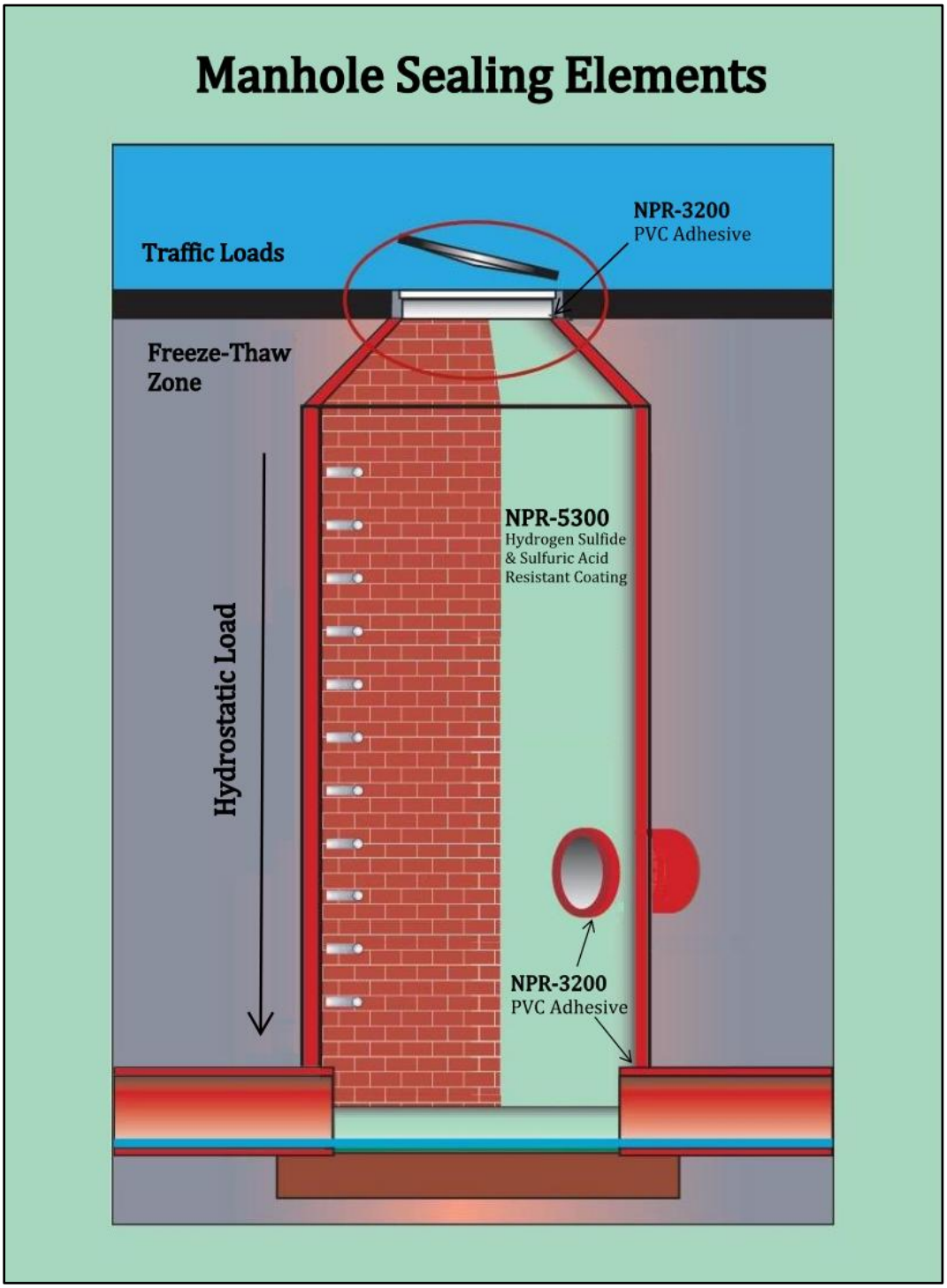
Surface Type #5 – Concrete with Severely Protruding Aggregate

Hand apply NPR-5305 evenly across entire surface, with front of coating even with fronts of protruding aggregate (bits of aggregate may still be visible). Once cured into smooth surface coating, apply NPR-5300 at minimum thickness of 125 mils.

Surface Type #6 – Gaps Between Surfaces

Infill gaps with hand-applied NPR-5305. Once cured, apply NPR-5300 at minimum thickness of 125 mils.

MANHOLE SEALING ELEMENTS



LINER COMPARISON CHART

	Liner Type						
Criteria	**Neopoxy NPR-5300**	**PVC Liner**	**CIPP Felt Liner**	**CIPP FRP Liner**	**Polyurethane (PU) Flex Liner**	**Cement w/ Epoxy Topcoat**	**Ca-Al Cement**
Liner Material	*NPR-5300*	PVC	Felt	Fiberglass	PU	Cement	Cement
Adhesive Material	*NPR-5300*	*NPR-3203*	*NPR-5305*	*NPR-5300*	PU	Cement	Cement
Barrier Material	*NPR-5300*	PVC	Polyester	Polyester	PU	*NPR-5302*	Cement
Protective Coating	◆	◆	◆	◆	◆	◆	◆
Barrier pH Range 1-14	◆	◆			◆	◆	
Monolithic Structure	◆						◆
Inexpensive Repairs	◆	◆	◆	◆	◆	◆	◆
Moisture Tolerant	◆	◆	◆	◆		◆	◆
Bonds to Host Surface	◆					◆	◆
Conforms to Host Surface	◆	◆			◆	◆	◆
ASTM F1216 Compliance	◆		◆	◆			
Ambient Cure	◆	◆			◆	◆	◆
Does Not Wrinkle	◆	◆			◆	◆	◆
Does Not Shrink	◆	◆			◆	◆	◆
Non-Toxic Ingredients	◆	◆				◆	◆
Easily Inspected	◆				◆	◆	◆

ADHESION TO CIPP PIPELINE MATERIAL

Neopoxy NPR-5300 Series Epoxies are designed to repair and bond all brands of cured-in-place pipe liners (CIPP) containing polyesters or epoxy resins.

Using the Instron materials testing machine, adhesion of NPR-5303 Medium Viscosity Epoxy to cured CIPP polyester resin and felt laminate demonstrated a pull strength in excess of 5000 psi, per ASTM D-4541. A photo of the tested sample is below. Note that partial failure occurred at the connection between the epoxy and aluminum dolly surface, ultimately lowering adhesion strength. This test demonstrates the incredibly strong bond between NPR-5303 and cured CIPP materials.

For maximum adhesion, grind down the CIPP liner skin at least 1-inch around the area of epoxy repair. If grinding is not possible, use a degreasing solution to remove any oils or contaminants around the area of epoxy repair.