POLY-NOX
DURABLE WATER-BASED ACRYLIC COATING FOR LONG-TERM CORROSION PROTECTION

POLY-NOX is a single-component, water-based acrylic coating designed for long-term corrosion protection. It is UV-stable, highly flexible, and compatible with previously coated surfaces.

- Achieves Class 1 rating for surface spread of flame (BS 476: Part 7: 1997)
- Maintains flexibility and UV stability, even in sub-zero temperatures
- Adheres effectively to minimally prepared surfaces
- Easy application with a water-based, single-pack formulation

PRODUCT FEATURES

- **Long-Term Corrosion Protection** – Designed for **extended durability**, providing over **10 years of protection** on surfaces prepared by **hydro blasting, mechanical abrasion, or abrasive blast cleaning.**
- **Single-Pack, High-Build Acrylic Coating** – Easy-to-apply **single-component** formulation that eliminates the need for complex mixing.
- **Superior UV Resistance & Flexibility** – Remains **stable and flexible** after curing, preventing cracking or degradation even under extreme weather conditions.
- **Outstanding Corrosion Resistance** – Forms a **durable protective barrier** against environmental factors, ensuring long-lasting performance in harsh conditions.
- **Versatile Application** – Suitable for a wide range of **industrial and commercial** environments, including **highly exposed structures** requiring reliable protection.

TYPICAL APPLICATIONS

POLY-NOX is a high-build, single-pack acrylic coating designed to provide corrosion protection for both metallic and cementitious surfaces. Its water-based formulation ensures low odor and a safer application process, while its UV stability and flexibility enable reliable performance, even in sub-zero temperatures.

Ideal Applications:

- Structural steel
- External tank surfaces
- Concrete structures

APPLICATION GUIDE

Phase 1: Surface Preparation

Metallic Substrates: Mechanical Abrasion

1. Remove oil and grease using an appropriate cleaner such as MEK.
2. Mechanically abrade surfaces using handheld grinders to SSPC-SP3 (Power Tool Cleaning).
3. Degrease and clean the abraded surface with MEK or a similar solvent.
4. Coat all surfaces immediately to prevent gingering or oxidation.

Metallic Substrates: Hand Tools

1. Remove ponding water, oil, or grease with a solvent wipe.
2. Clean surfaces using a wire brush, metal file, or coarse sandpaper.
3. After abrasion, wipe the surface with solvent to remove contaminants.

Metallic Substrates: Hydro-Blasting

1. Hydro-blast surfaces with clean water at 130 bar to meet NACE 5 (SSPC SP13 WJ3-WJ1) standards.
2. Ensure all surfaces are coated before oxidation or gingering occurs.

⚠ Note: For salt-contaminated surfaces, pressure wash thoroughly with clean water and check for salt contamination. Refer to the Surface Preparation & Pre-Application Guide for further details.

New Concrete

1. Allow concrete to cure for a minimum of 21 days to remove any surface laitance.
2. Check the moisture content, ensuring it is 8% or below before coating.
3. Lightly abrade the surface, avoiding exposure of the aggregate.
4. Remove all dust and debris, then prime with FLOOR-TECH SP PRIMER (low-viscosity epoxy primer).
5. Apply FLOOR-TECH SP PRIMER at 6 mil WFT, allowing 3 hours of curing at 68°F before overcoating.

Existing Concrete

1. If contaminated, pressure wash with clean water.
2. Once dry, mechanically abrade or scarify, ensuring the aggregate is not exposed.
3. Remove all dust and debris, then prime with FLOOR-TECH SP PRIMER (low-viscosity epoxy primer).
4. Apply FLOOR-TECH SP PRIMER at 6 mil WFT, allowing 3 hours of curing at 68°F before overcoating.

Phase 2: Product Preparation

Before mixing, ensure the following conditions are met:

- The product temperature is between 60-77°F.
- The ambient and surface temperatures are above 50°F.
- The ambient and surface temperatures are at least 6°F above the dew point to prevent condensation-related issues.

Phase 3: Product Mixing

To ensure a uniform and consistent mixture, follow these steps:

- Mix the entire 20-litre unit thoroughly.
- Use an electric paddle mixer to agitate the product, ensuring a homogeneous blend of the acrylic emulsion.

Phase 4: Product Application

Brush or Roller Application

- Pour the material into a paint kettle or tray for easy access.
- Stripe coat all edges, joints, corners, and equipment using a 2-inch synthetic brush with POLY-NOX
- Ensure the stripe coat is approximately 100mm (4") wide, applied at 12 mil wet film thickness.
- Once the stripe coat has cured and is ready for overcoating, apply the first coat of mixed product across all surfaces at 16 mil wet film thickness.
- Allow the first coat to cure sufficiently (approximately 2 hours at 68°F before applying the second coat at 16 mil wet film thickness.

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Spray Application

- Use an airless spray system with a 30:1 ratio pump.
- Maintain a spray pressure of 13.8 bar with a tip size of 15-21 thou.
- Apply the first coat of mixed product at 16 mil wet film thickness.
- Allow the first coat to cure sufficiently (approximately 2 hours at 68°F before applying the second coat at 16 mil wet film thickness.

APPLICATION AT A GLANCE

Brush or Roller Application

Step 1 - Ensure you have the following:
1 x Single component emulsion
1 x Spatula
1 x Brush
1 x Slow speed drill and paddle

Step 2 – Thoroughly mix the coating using a slow-speed drill and paddle to ensure a uniform consistency.

Step 3 – Apply the first coat at a minimum wet film thickness of 400 microns.

Step 4 – Allow the first coat to become touch dry (approximately 30 minutes at 68°F).

Step 5 – Apply a second coat at 16 mil wet film thickness for optimal protection.

Spray Application

Step 1 - Ensure you have the following:
1 x Single component emulsion
1 x Slow speed drill and paddle
1 x Spray applicator

Step 2 – Recommended Spray Setup

- Pump Ratio: Minimum 30:1
- Tip Size: 15-21 thou
- Spray Pressure: 138 bar +

Step 3 – Spray the coating evenly onto the prepared surface at a wet film thickness of 16 mil.

Step 4 – Allow the first coat to become touch dry (approximately 2 hours at 68°F).

Step 5 – Once cured, spray a second coat at 16 mil wet film thickness for optimal coverage and protection.

TECHNICAL DATA & PERFORMANCE

Characteristics

Appearance

Single Component	Thixotropic Acrylic Emulsion

Solids Content

65%

Volume Capacity

657cc/Kg

Sag Resistance

Nill at 20 mils

Density

Single Component	1.25

Mixing Ratio

Single Component

Shelf Life

5 years if unopened and stored in normal dry conditions 60-86°F

Coverage Rates

20LTR of fully mixed product will give the following coverage rates -
536ft² at 16mil
Please note that the coverage rates provided are theoretical and do not account for the profile or condition of the surface being repaired.

Cure Times

Touch Dry

50°F	3 hours
68°F	2 hours
86°F	60 minutes
104°F	30 minutes

Minimum Overcoating Time

50°F	3 hours
68°F	2 hours
86°F	60 minutes
104°F	30 minutes

Minimum Overcoating Time

Indefinite

Pack Sizes

This product is available in the following pack sizes:

20LTR

Mechanical Properties

Corrosion Weathering ASTM D4798	1,500 hours No cracks or blistering
Elongation ASTM D412	230%
Corrosion Resistance ASTM B117	5,000 hours Excellent
Impact Resistance ASTM D224	110lb/ins
Adhesion – Tensile Shear ASTM 412	3.2N/mm² (2,750 psi)
Heat Resistance	Resistance to Dry Heat up to 194°F dependent on load
UV Resistance ASTM D4587	5,000 hours unaffected
Classification of Spread of Flame	Class 1 rating for surface spread of flame (BS 476: Part 7:1997)

Approvals

Classification of Spread of Flame Class 1 rating for surface spread of flame (BS 476: Part 7:1997)

Food Contact USDA compliant for incidental food contact

Title 21, Food & Drugs, Chapter 1, U.S. Code of Federal Regulations, FDA Subchapter B – Food for Human Consumption, Section 175.300 (Resinous & Polymeric Coatings).

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Technical Service

Complete technical assistance is available. Please contact Thortex America, INC with your requirements:
1-610-831-0222 I kclarke@thortex.com

The products that we supply are for professional use only, it is your responsibility to read the technical data sheets before you place an order and prior to application of the product

Quality

All THORTEX AMERICA, INC products are manufactured and supplied in accordance with an ISO 9001 registered Quality Management System.

Warranty

All THORTEX AMERICA, INC warrants that the performance of the supplied product will conform to the typical descriptions provided in the Technical Data Sheet.

Health & Safety

Please ensure good practices are followed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn. Before mixing and applying the material, please ensure you have read and fully understood all relevant information.

Legal Notice

The data provided in this Product Technical Data Sheet is for informational purposes only and is believed to be accurate at the time of issuance. However, we cannot assume responsibility for results obtained by others whose methods are beyond our control. It is the customer's responsibility to assess the suitability of the product for their intended use. THORTEX AMERICA, INC accepts no liability arising from the use of this information or the product described herein.