



# NSP SPECIALTY PRODUCTS

## Technical Data Sheet

### NSP 120 High Performance Epoxy Coating

**Description:** NSP 120, a two component, 100% solids, high build epoxy coating, offers excellent chemical, corrosion and abrasion resistance in severe industrial environments. This extremely versatile product features a unique 12-hour turnaround to service without force cure or specialized equipment.

**Intended**

**Uses:** Tank/Pipe Linings, Joining & Maintenance Repair, Waste Treatment, Wet Wells, Containment Areas, Walls, Machinery/Equipment, Structural Steel, Nuclear and Marine Applications.

**Product**

**Features:** Moisture Tolerant- Cures under water - 12 hour Full Cure  
Ease of application – brush, roller or spray  
Tenacious adhesion on properly prepared surfaces  
Tile like high gloss finish easy to clean and decontaminate  
Environmentally sound

**Approvals:**

NSP 120 – NSF Certified Version to Std. 61 Tank/Pipe Interiors  
Accepted for use by the USDA in Federally Inspected Meat/Poultry Plants  
Accepted by the Canadian Food Inspection Agency in Registered Establishments  
Nuclear- Level 1 Areas – Wet or Dry Wells Passed ANSI N101.2 Thermal Conductivity/ASTM 3911 for Design Basis Accident (DBA) & ASTM D-4082 Radiation Tolerance/Decontamination Testing per ASTM D4256/Chemical & Physical Exposure Test ASTM 3912, ANSI N5.12, ASTM D4060, Fire Testing ASTM E84 – Also passed over marginally prepared steel  
Passes MIL-P-24380B Type II SH VOC Compliant Paint for Anchor Chain

**Physical**

**Data:** Type: Modified Epoxy Resin/Proprietary Blend Amine Adduct Hardener  
Color: White, Black, Tile Red, Light Gray. Safety Colors and other non-standard colors available upon request  
Components: Two  
Gloss: High  
Mixed Ratio: 2 Parts A (Resin): 1 Part B (Hardener) by volume  
Volume Solids: 100% - VOC 0 lbs/gal  
Pot Life @ 77F/25C: 30 minutes



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**Physical Data:**

Maximum Recommended Service Temperature:

*Dry Air Temp. 300F/149C – Immersion: Deionized water 190F/88C*

Application Temperatures: 40-90F (10-32C)

Note: Air and substrate temperatures - Elevated ambient and substrate temperatures during application (90-125 Deg. F) can affect the application properties in the following ways: speed up reaction time between Part A Resin and Part B Hardener therefore shortening pot life and decreasing drying times, lowering the viscosity of the product therefore decreasing sag resistance on a vertical surface. As long as the applicator knows pot life will be decreased and sag resistance (lower film build in one coat) on vertical surfaces will decrease, it will not have any negative effects on the cured film.

Minimum Recoat Time @ 77F/25C: 3 hours

Maximum Recoat Time @ 77F/25C: 48 hours

Minimum Cure Time – Full Service @ 77F/25C: 12 hours

Sag @ 77F/25C: 16 mils

Theoretical Coverage: 1604 sq/ft/gal/mil – Allow for appropriate loss

Maximum Thinner (if necessary): 20% by volume with NSP-T1 Thinner

Packaging: Pre-portioned 3 Qt. Kit/ 3 Gal Kit/ 15 Gal Kit

#### Physical Properties and Performance

PROPERTY	TEST METHOD	RESULT
Tensile Strength	ASTM D638	5600 psi
Compressive Strength	ASTM D695	11700 psi
Flexural Strength	ASTM D790	8900 psi
Adhesion to Concrete	ASTM D4541	Substrate Failure
Adhesion to Steel SSPC-SP10	ASTM D4541	>1200 psi
Adhesion to Damp Concrete	ASTM D4541	>350 psi Substrate Failure
Tensile Elongation	ASTM D638	5%
Hardness, Shore D	ASTM 2240	90
Abrasion Resistance	ASTM D460, 1000 g Load 1000 cycles	37.7 mg Average Wt. Loss
Flame Spread	ASTM E84	Class A
Flammability	ASTM D635	Self Extinguishing

Excellent chemical resistance – Crude oil, sour gas, chlorine, bleach, Sulfuric Acid 0-70% Sodium Hydroxide 0-50% in immersion service, ambient temps.



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**Limitations:** This product may not cure properly in temperatures below 40 F. All epoxies will show chalking/yellowing on exterior exposures. Application of epoxy coatings in cool temperatures and high humidity can result in the formation of amine blush. Blush may appear as a milky, white, tacky residue on the surface of the cured coating and must be removed before the application of another coat. Intercoat adhesion problems may occur if blush is not removed.

**Surface Preparation:** Steel – *Immersion Service:* SSPC-SP10 Near White Blast Cleaning with 3.0-mil profile  
*Non-Immersion Service:* SSPC-SP6 Commercial Blast Cleaning with 2.0 mil profile  
*Non-Immersion Service where a Commercial Blast Cleaning cannot be performed:*  
Minimum requirement is SSPC-2/SSPC-3 Hand/Power Tool Cleaning or SSPC-SP7 Brush Off Blast Cleaning

Concrete – Concrete must be properly cured for a minimum of 28 days before application of coating. Surface must be entirely free of oil, grease, dirt, detergent, surface water, laitance, curing compounds, coatings or other contaminants that may interfere with adhesion. The concrete must be abrasive or water blasted to provide an anchor pattern (similar to 60-80 grit sandpaper min.) for adhesion. Final prepared surface should be clean and rough. Consult SSPC-SP13 – Surface Preparation of Concrete.

**Mixing Instructions:** This is a two-component system. Prior to mixing, components A Resin and B Hardener should be at room temperature (60-75 F/16-24C). Pour Part B Hardener into Part A Resin. Mix for 3 minutes using a Jiffy mixer head and a mechanical drill. To ensure complete mixing, scrape sides and bottom of container and continue mixing for an additional 1 or 2 minutes. Do not mix more material than can be applied within the pot life. DO NOT HAND MIX. Begin application immediately – no induction time.

**Application:** Air and surface temperature should be between 40-90F. Do not begin application if air, substrate or material temperature is below 40F or expected to fall below 40F within 12 hours of application. Do not begin application if dew point is within 5F/3C of the temperature. Variations in temperature can affect pot life and sag properties of this material. Do not exceed 20% by volume of thinner with NSP-T1 Thinner. NSP-T1 Thinner will not clean hoses or equipment adequately. Clean up using Acetone or other Ketone Solvent. For concrete surfaces, a primer coat of either NSP 100, 101 and 110 is strongly recommended.

**Method of Application:** Brush, Phenolic Core Roller, Airless Spray



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#### Recommended

#### Equipment: *Airless Spray*

Pump - a minimum of 30:1 - preferred 45:1

Tip Range - .023 to .027

Hose - 3/8" I.D. if less than 50 ft. - greater than 50 ft. use 1/2" (3500 psi High Pressure Spray Hose)

Pressure (in) 90 cfm minimum @100 psi

Pressure at the tip - increase pressure slowly to 2000 psi and fine tune to achieve proper spray pattern.

Check condition of fan at spray tip. During the first seconds of spraying, the material will often finger.

Raise or lower pressure to adjust width. Periodically check pressure gauges while spraying. Knowing operating pressure will be useful in analyzing any changes to your spray pattern.

Whip - 3'- 5' and 1/4" ID Hose

Take care to prevent mixed material from setting up in hoses. For optimum results, keep hose as short as possible, out of direct sunlight or away from heat. Purge immediately after spraying with Acetone or Ketone solvent. Cured material must be mechanically removed.

#### Storage &

#### Shelf Life:

Shelf life is 12 months from the date of manufacture when stored in unopened containers and under recommended conditions. Material should be stored in a dry area under cover at temperatures between 45-95F/7-35C. It is recommended that the coating components be kept inside at a minimum of 60F/16C for 24 hours prior to start of application. Keep away from heat, flame and ignition sources.

#### Warning &

#### Safety:

#### **FOR INDUSTRIAL USE ONLY - KEEP AWAY FROM CHILDREN**

Refer to Material Safety Data Sheet for NSP 120 Part A and B supplied with this product prior to application. MSDS may be obtained via web site at [www.nsp-specialty.com](http://www.nsp-specialty.com), fax 910-235-3902 or by calling 800-248-8907. Use only with adequate ventilation and avoid breathing mist or vapors. Prevent contact with skin and eyes with protective clothing/impervious gloves and goggles. Do not take internally. Wash thoroughly after handling

#### Disclaimer &

#### Limited Warranty:

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