POTA-POX® PLUS SERIES N140

PRODUCT PROFILE

GENERIC DESCRIPTION
Polyamidoamine Epoxy

COMMON USAGE
Innovative potable water coating which offers high-build edge protection and allows for application at a wide range of temperatures (down to 35°F or 2°C with 44-700 Accelerator). For use on the interior and exterior of steel or concrete tanks, reservoirs, pipes, valves, pumps and equipment in potable water service.

COLORS
1211 Red, 1255 Beige, 00WH Tnemec White, 15BL Tank White, 35GR Black and 39BL Delft Blue. **Note:** Epoxies chalk with extended exposure to sunlight. Lack of ventilation, incomplete mixing, miscatalyzation or the use of heaters that emit carbon dioxide and carbon monoxide during application and initial stages of curing may cause yellowing to occur.

SPECIAL QUALIFICATIONS
Certified by **NSF International** in accordance with **ANSI/NSF Std. 61.** Series N140 manufactured by Tnemec Company in Kansas City, Missouri or Baltimore, Maryland; ambient air cured (with or without 44-700 Epoxy Accelerator) is qualified for use on tanks and reservoirs of 1,000 gallons (3,785 L) capacity or greater, pipes 18 inches (46 cm) in diameter or greater, valves four (4) inches (10 cm) in diameter or greater and fittings four (4) inches (10 cm) in diameter or greater. Series N140 manufactured by Tnemec Coatings in Shanghai, China; ambient air cured (with or without 44-700 Epoxy Accelerator) is qualified for use on pipes 18 inches (46 cm) in diameter or greater, valves four (4) inches (10 cm) in diameter or greater and fittings four (4) inches (10 cm) in diameter or greater.

Certified by **NSF International** in accordance with **NSF/ANSI/CAN Std. 61** and the extraction requirements of **NSF/ANSI/CAN 600** for use as a primer or intermediate coat with any Tnemec NSF certified primer and topcoat coating system provided the primer, intermediate and topcoat meet their certified end uses. Series N140 is qualified for use on tanks and reservoirs of 500 gallons (1892 L) capacity or greater. Reference Tnemec's certified product listing at www.nsf.org for details on the maximum allowable DFT.

Conforms to **AWWA D102 Inside Systems No. 1 and No. 2** (with or without 44-700). Conforms to **AWWA C210** (without 44-700). Contact your Tnemec representative for systems and additional information.

A two-coat and three-coat system of Series N140 meets the requirements of **AWWA C550** Protective Interior Coatings for Valves and Hydrants.

COATING SYSTEM

SURFACER/FILLER/PATCHER
Series 215, 217, 218

PRIMERS
Self-priming, Series 22, 91-H_2O, 94-H_2O, L140, L140F, N140F, V140, V140F, 141

TOPCOATS
Interior: Series 22, FC22, L140, L140F, N140, N140F, V140, V140F, 141, 264, 265, 406.
Exterior: Series 22, 27, 27WB, 30, 66, L69, L69F, N69, N69F, V69, V69F, 72, 73, 118, L140, L140F, N140, N140F, V140, V140F, 141, 156, 157, 161, 180, 181, 446, 700, V700, 701, V701, 740, 750, 1026, 1028, 1029, 1074, 1074U, 1075, 1075U, 1077, 1078, 1078V, 1080, 1081, 1094, 1095, 1096, 1224. **Note:** When topcoating with Series 700, V700, 701 or V701, an intermediate coat of Series 73, 1075, 1075U, 1095 or 1096 is required. **Note:** The following recoat times apply for Series N140: Immersion Service—Surface must be scarified by blasting with fine abrasive after 60 days. Atmospheric Service—After 60 days, scarification or an epoxy tie-coat is required. When topcoating with Series 740 or 750, recoat time for N140 is 21 days. **Note:** When topcoating with Series 406, recoat times will vary with temperature. Reference the Series 406 product data sheet for specific recoat times. Contact your Tnemec representative for specific recommendations.

SURFACE PREPARATION

STEEL
Immersion Service: SSPC-SP10/NACE 2 Near-White Blast Cleaning or ISO Sa 2 1/2 Very Thorough Blast Cleaning with a minimum angular anchor profile of 1.5 mils.
Non-Immersion Service: SSPC-SP6/NACE 3 Commercial Blast Cleaning or ISO Sa 2 Thorough Blast Cleaning with a minimum angular anchor profile of 1.5 mils. **Note:** Commercial Blast Cleaning generally produces the best coating performance for this exposure. If conditions will not permit this, in moderate exposures Series N140 may be applied to SSPC-SP2 or SP3 Hand or Power Tool Cleaned surfaces (SSPC Rust Grade Condition C).

CAST/DUCTILE IRON
All external surfaces of ductile iron pipe and fittings shall be delivered to the application facility without asphalt or any other protective lining on the exterior surface. All oils, small deposits of asphalt paint, grease, and soluble deposits should be removed and uniformly abrasive blasted using angular abrasive in accordance with NAPF 500-03-04: External Pipe Surface condition. When viewed without magnification, the exterior surfaces shall be free of all visible dirt, dust, loose annealing oxide, rust, mold coating and other foreign matter. Any area where rust reappears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 1.5 mils (38.1 microns) (Reference NACE RP0287 or ASTM D 4417, Method C).

CONCRETE
Allow new cast-in-place concrete to cure a minimum of 28 days at 75°F (24°C). Verify concrete dryness in accordance with ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" (moisture vapor transmission should not exceed three pounds per 1,000 square feet in a 24 hour period), F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes" (relative humidity should not exceed 80%), or D 4263 "Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method" (no moisture present). Prepare concrete surfaces in accordance with NACE No. 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Abrasive blast, shot-blast, water jet or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers and other contaminants and to provide an ICRI-CSP 2-3 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.

PRIMED SURFACES
Immersion Service: Scarify the Series N140 prime coat by brush-blasting with fine abrasive before topcoating if: (a) the Series N140 prime coat has been in exterior exposure for 60 days or longer and Series 66, L69, L69F, N69, N69F, V69, V69F, L140, L140F, N140, N140F, V140, V140F or 161 is the specified topcoat; (b) the Series N140 prime coat has been in exterior exposure for 7 days or longer and Series 264 or 265 is the specified topcoat.

ALL SURFACES
Must be clean, dry and free of oil, grease and other contaminants.

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TECHNICAL DATA

VOLUME SOLIDS 67.0 ± 2.0% (mixed—A, B & 44-700 Epoxy Accelerator) †

RECOMMENDED DFT 2.0 to 10.0 mils (50 to 225 microns) per coat. **Note:** Dry film thickness that exceeds published recommendations but is in compliance with SSPC PA-2 and ANSI/NSF Std. 61 certifications, is acceptable. **Note:** The number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.

CURING TIME AT 5 MILS DFT Without 44-700 Accelerator:

Temperature	To Handle	To Recoat	Immersion
90°F (32°C)	5 hours	7 hours	7 days
80°F (27°C)	7 hours	9 hours	7 days
70°F (21°C)	9 hours	12 hours	7 days
60°F (16°C)	16 hours	22 hours	9 to 12 days
50°F (10°C)	24 hours	32 hours	12 to 14 days

Curing time varies with surface temperature, air movement, humidity and film thickness.
Pipes, valves and fittings: A minimum of 30 days cure at 75°F (24°C) is required. Series N140 may be applied up to 24 mils (610 microns) DFT when cured for 120 days prior to immersion (Kansas City manufactured material). Refer to product listing on www.nsf.org for specific potable water return to service information. **Ventilation:** When used in enclosed areas, provide adequate ventilation during application and cure. **Note:** For faster curing and low temperature applications, add No. 44-700 Epoxy Accelerator, see separate product data sheet for cure information.

VOLATILE ORGANIC COMPOUNDS
Unthinned: 2.4 lbs/gallon (285 grams/litre)
Thinned 5% (#60): 2.6 lbs/gallon (311 grams/litre)
Thinned 10% (#4): 2.8 lbs/gallon (334 grams/litre) †

HAPS **Unthinned:** 2.4 lbs/gal solids **Thinned 5% (#60):** 2.4 lbs/gal solids
Thinned 10% (#4): 3.3 lbs/gal solids

THEORETICAL COVERAGE 1,070 mil sq ft/gal (27.2 m²/L at 25 microns). See APPLICATION for coverage rates. †

NUMBER OF COMPONENTS Two: Part A (amine) and Part B (epoxy) — One (Part A) to one (Part B) by volume.

PACKAGING

	Part A	Part B	Yield (mixed)
Large Kit	5 gallon pail	5 gallon pail	10 gallons (37.9 L)
Small Kit	1 gallon can	1 gallon can	2 gallons (7.6 L)

Reference 44-700 Epoxy Accelerator product data sheet for its packaging information.

NET WEIGHT PER GALLON 12.66 ± 0.25 lbs (5.82 ± 0.11 kg) (mixed) †

STORAGE TEMPERATURE Minimum 20°F (-7°C) Maximum 110°F (43°C)

TEMPERATURE RESISTANCE (Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)

SHELF LIFE Part A: 24 months; Part B: 12 months at recommended storage temperature.

FLASH POINT - SETA Part A: 82°F (28°C) Part B: 80°F (27°C) 44-700: None

HEALTH & SAFETY Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product.
Keep out of reach of children.

APPLICATION

COVERAGE RATES

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m²/Gal)
Suggested	6.0 (150)	9.0 (230)	179 (16.6)
Minimum	2.0 (50)	3.0 (75)	537 (49.9)
Maximum	10.0 (225)	15.0 (375)	107 (10.0)

Note: Roller or brush application requires two or more coats to obtain recommended film thickness. Allow for overspray and surface irregularities. Wet film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance. Reference the NSF website at www.nsf.org for details on the maximum allowable DFT. †

MIXING Start with equal amounts of Series N140 Parts A and B. Power mix contents of each container separately, making sure no pigment remains on the bottom. Pour a measured amount of Part B into a clean container large enough to hold both components. If Series 44-700 is not being used, proceed with mixing and add an equal volume of Part A to Part B while under agitation. Continue agitation until the two components are thoroughly mixed. **Note:** Both components must be above 50°F (10°C) prior to mixing. For optimum mixing and application properties, the material should be above 60°F (16°C).

If using Series 44-700 accelerator, slowly add four (4) fluid ounces of 44-700 per gallon to Series N140 Part A material while under agitation and proceed with adding Part B. **Note:** The use of more than the recommended amount of 44-700 will adversely affect performance.

Thin by volume and thoroughly mix. Failure to thoroughly mix the Part A and Part B components prior to thinning can affect product's gloss and performance. Do not use mixed material beyond pot life limits. **Note:** For application of the unaccelerated version to surfaces between 50°F to 60°F (10°C to 16°C) or the accelerated version to surfaces between 35°F to 50°F (2°C to 10°C), allow mixed material to stand 30 minutes and restir before using.

THINNING Use No. 4 or No. 60 Thinner. For air spray, thin up to 10% or 3/4 pint (380 mL) per gallon with No. 4 Thinner or thin up to 5% or 1/4 pint (190 mL) per gallon with No. 60 Thinner. For airless spray, roller or brush, thin up to 5% or 1/4 pint (190 mL) per gallon. **Caution: Series N140 NSF certification is based on thinning with No. 4 or No. 60 Thinner for tanks and only No. 60 Thinner for pipe, valves and fittings.** Use of any other thinner voids ANSI/NSF Std. 61 certification.

POT LIFE Without 44-700 6 hours at 50°F (10°C) 4 hours at 75°F (24°C) 1 hour at 100°F (38°C)
With 44-700 2 hours at 50°F (10°C) 1 hour at 75°F (24°C) 30 minutes at 100°F (38°C)

SPRAY LIFE

Without 44-700: 1 hour at 77°F (25°C) With 44-700: 30 minutes at 75°F (24°C)
Note: Spray application after listed times will adversely affect ability to achieve recommended dry film thickness.

APPLICATION EQUIPMENT

Air Spray

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss JGA	E	765 or 704	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	50-80 psi (3.4-5.5 bar)	10-20 psi (0.7-1.4 bar)

Airless Spray

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.015"-0.019" (380-485 microns)	3000-4800 psi (207-330 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	60 mesh (250 microns)

Low temperatures or longer hoses require higher pot pressure. Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.
Roller: Use 3/8" or 1/2" (9.5 mm to 12.7 mm) synthetic woven nap roller cover. Use longer nap to obtain penetration on rough or porous surfaces.
Brush: Recommended for small areas only. Use high quality natural or synthetic bristle brushes.

SURFACE TEMPERATURE

Without 44-700: Min. 50°F (10°C), Max. 135°F (57°C) With 44-700: Min. 35°F (2°C), Max. 135°F (57°C)
The surface should be dry and at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature.

CLEANUP

Flush and clean all equipment immediately after use with the recommended thinner or MEK.

† Values may vary with color.