



# EPOXOLINE® SERIES 22

## PRODUCT PROFILE

**GENERIC DESCRIPTION** Modified Polyamine Epoxy

**COMMON USAGE** An advanced generation, 100% solids, high-build epoxy for the protection of steel and concrete. It provides excellent resistance to abrasion and is suitable for immersion service in potable water, wastewater, crude oil, and finished fuel environments. Specialized curing mechanism allows for faster cure response with airless spray application.

**COLORS** WH11 Off-White, 1218 Light Blue, 1255 Beige

**FINISH** Semi-Gloss

**SPECIAL QUALIFICATIONS** Series 22-WH11 Off-White, 22-1218 Light Blue and 22-1255 Beige are certified by **NSF International** in accordance with **NSF/ANSI Std. 61** and are qualified for use on tanks and reservoirs of five (5) gallons capacity or greater, pipes 1/2" in diameter or greater and valves 1/2" in diameter or greater. Series 20HS, FC20HS, 91-H<sub>2</sub>O, 94-H<sub>2</sub>O, N140, N140F, V140 and V140F are the only Std. 61 certified primers for use with Series 22. Reference the "Search Listings" section of the NSF website at [www.nsf.org](http://www.nsf.org) for details on the maximum allowable DFT. Series 22 conforms to **AWWA C 210**.

Series 22 conforms to API 652 for lining above ground storage tanks. Series 61 is the recommended primer for use with Series 22 in crude oil or finished fuel immersion service environments. Contact your Tnemec representative for systems and additional information.

## COATING SYSTEM

**SURFACER/FILLER/PATCHER** Series 215, 217, 218

**PRIMERS** **Steel:** Self-priming, 20HS, FC20HS, 61, 66, 66HS, L69, L69F, N69, N69F, 90-97, H90-97, 90G-1K97, 91-H<sub>2</sub>O, 94-H<sub>2</sub>O, L140, L140F, N140, N140F, V140, V140F, 161, 161HS. **Note:** Series 20HS, FC20HS, 66, 66HS, L69, N69, L140, N140, V140, 161 or 161HS exposed more than 60 days; L69F, N69F, V69F, L140F, N140F or V140F exposed more than 30 days; 61 exposed more than 14 days must first be scarified or reprimed with themselves prior to topcoating with 22.

**TOPCOATS** Series 73, 740, 750, 1028, 1029, 1074, 1074U, 1075, 1075U, 1080, 1081. **Note:** Series 22 exterior (sunlight) exposed for longer than maximum recoat requires scarification by abrasive blasting prior to topcoating.

## SURFACE PREPARATION

**STEEL** **Non-Immersion Service:** SSPC-SP6/NACE 3 Commercial Blast Cleaning with a minimum angular anchor profile of 1.5 mils for dry film thicknesses at 16.0 to 20.0 mils.  
**Immersion Service:** SSPC-SP10/NACE 2 Near-White Blast Cleaning with a minimum angular anchor profile of 3.0 mils for dry film thicknesses at 20.0 mils or greater.  
**Enclosed, Protected & Mild Environments:** Contact your Tnemec representative or Tnemec Technical Service.

**WELDS** Remove weld spatter, burrs, or protrusions; remove and/or round sharp edges; and smooth rough welds prior to abrasive blasting. Welds should be ground to remove any irregularities and are considered ready for painting when a minimum finishing level of a C designation, as defined by NACE SP0178 latest revision, has been achieved.

**DUCTILE IRON** Contact your Tnemec Representative or Tnemec Technical Services.

**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 sq ft 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 too provide a minimum ICRI-CSP 5 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.

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

## TECHNICAL DATA

**VOLUME SOLIDS** 100% (mixed) †

**RECOMMENDED DFT** 16 to 40 mils (400 to 1016 microns) in one or two coats.

**CURING TIME**

Temperature	To Touch	Dry Through	Minimum to Recoat	Return to Service	Maximum to Recoat
95°F (35°C)	2 1/2 hours	5 1/2 hours	4 hours	5 days	7 days
75°F (24°C)	7 hours	18 hours	16 hours	5 days	7 days
50°F (10°C)	24 hours	27 hours	32 hours	7 days	7 days

**Note:** These cure times are based on 20.0 mil (500 micron) dry film thickness. Cure time varies with surface temperature, air movement, humidity, and film thickness. **Ventilation:** When used as a tank lining or in enclosed areas, provide adequate ventilation during application and cure.

**VOLATILE ORGANIC COMPOUNDS**

**Unthinned:** 0.10 lbs/gallon (12 grams/litre)  
**Thinned 5%:** 0.44 lbs/gallon (52 grams/litre) †

**HAPS**

**Unthinned:** 0.0 lbs/gal solids  
**Thinned 5%:** 0.37 lbs/gal solids

**THEORETICAL COVERAGE**

1,604 mil sq ft/gal (39.4 m<sup>2</sup>/L at 25 microns). See APPLICATION for coverage rates. †

**NUMBER OF COMPONENTS**

Two: Part A (polyamine) and Part B (epoxy)

**MIXING RATIO**

By volume: One (Part A) to one (Part B).

# EPOXOLINE® | SERIES 22

**PACKAGING**

	<b>PART A</b>	<b>PART B</b>	<b>When Mixed</b>
Large Kit	5 gallon pail	5 gallon pail	10 gallons (37.85 L)
Medium Kit	6 gallons pail (partial fill)	3 gallon can (partial fill)	5 gallons (15.14 L)
Small Kit	1 gallon can (partial fill)	1 gallon can (partial fill)	1 gallon (3.79 L)

Large kit offered for plural component application.

**NET WEIGHT PER GALLON**

12.70 ± 0.25 lbs (5.76 ± .11 kg) (mixed) †

**STORAGE TEMPERATURE**

Minimum 20°F (-6°C) Maximum 110°F (43°C)

**TEMPERATURE RESISTANCE**

Chemical resistance varies depending on chemical exposure and temperature. Contact Tnemec Technical Services for more information.

**SHELF LIFE**

Part A: 12 months and Part B: 12 months at recommended storage temperature.

**FLASH POINT - SETA**

Part A and Part B: >200°F (97°C)

**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 the reach of children.**

**APPLICATION**

**COVERAGE RATES**

	<b>Dry Mils (Microns)</b>	<b>Wet Mils (Microns)</b>	<b>Sq Ft/Gal (m<sup>2</sup>/Gal)</b>
Minimum	16.0 (400)	16.0 (400)	100 (9.3)
Maximum	40.0 (1016)	40.0 (1016)	40 (3.7)

A minimum of 30 mils (762 microns) is recommended for crude oil and finished fuels. Allow for overspray and surface irregularities. 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. †

**MIXING**

Mix the entire contents of Part A and Part B separately. Scrape all of the Part A and Part B into a suitable container by using a flexible spatula. Use a variable speed drill with a PS Jiffy blade and mix the blended components for a minimum of two minutes. Apply the mixed material within the spray or pot life limits after agitation. For optimum application characteristics, material temperature should be between 70°F (21°C) and 80°F (27°C). **Note:** A large volume of material will gel quickly if not applied or reduced in volume.

**Caution: Do not reseal mixed material. An explosion hazard may be created.**

**THINNING**

May thin up to 5% or 6 fluid ounces per gallon with No. 2 Thinner. DO NOT thin in areas with strict extractable regulations.

**SPRAY LIFE**

**Unthinned:** 25 minutes at 75°F (24°C)

**Thinned 5%:** 1 hour at 75°F (24°C) 30 minutes at 90°F (32°C)

**APPLICATION EQUIPMENT**

**Airless Spray**

<b>Spray Gun</b>	<b>Pump Size</b>	<b>Tip Orifice</b>	<b>Atomizing Pressure</b>	<b>Mat'l Hose ID</b>	<b>Manifold Filter</b>
Graco XHF, XTR7 or WIWA 500F	56:1, X50 or X60	0.019"-0.023" (483-585 microns)	5500-6000 psi (379-413 bar)	See Below	N/R

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

**Note:** Remove all filters. Material needs to be gravity fed through a material hopper. Material will not feed through a suction tube. **Note:** If mixed material temperature in mass exceeds 150°F (66°C), immediately purge all spray equipment and flush and clean with solvent.

**In areas with strict extractable limitations in potable water and thinning is not permitted:**

Material Hose ID (Nominal 200 feet): Attach up to 200' x 1/2" hose to the pump. Attach a 10' x 3/8" whip hose to the 1/2" hose.

**In areas where thinning is allowed:**

Material Hose ID (Nominal 200'): Attach up to 200' x 3/8" hose to the pump. Attach a 3' x 1/4" whip hose to the 3/8" hose.

**Plural Component Application:** Contact Tnemec Technical Service for detailed equipment requirements.

**Brush:** Recommended for small areas only. Use high quality natural or synthetic bristle brushes.

**Roller:** Application not recommended.

**SURFACE TEMPERATURE**

Minimum 50°F (10°C) Maximum 130°F (54°C)

The surface temperature should be at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature. To avoid outgassing, concrete temperature should be stable or in a descending temperature mode.

**MATERIAL TEMPERATURE**

Prior to application, the material temperature should be between 70°F and 80°F (21°C and 27°C). It is suggested the material be stored at these temperatures at least 48 hours prior to use. Temperature will affect the workability. Cool temperatures increase viscosity and decrease workability. Warm temperatures will decrease viscosity and shorten pot life.

**HOLIDAY TESTING**

If required by the project specifications, holiday testing should be performed in accordance with NACE SP0188. Contact Tnemec Technical Service for voltage recommendations and curing parameters prior to testing.

**CLEANUP**

Flush and clean all equipment immediately after use with Tnemec No. 4 Thinner. Use Tnemec No. 68 Thinner when needed to comply with VOC regulations.

† Values may vary with color.

WARRANTY & LIMITATION OF SELLER'S LIABILITY: Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc. THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The buyer's sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event a defective condition of the product should be found to exist and the exclusive remedy shall not have failed its essential purpose as long as Tnemec is willing to provide comparable replacement product to the buyer. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, ENVIRONMENTAL INJURIES OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating.