TNEMEC

PRODUCT DATA SHEET

HI-BUILD EPOXOLINE® II SERIES L69

PRODUCT PROFILE

GENERIC DESCRIPTION Polyamidoamine Epoxy

COMMON USAGE A versatile, low VOC epoxy for protection and finishing of steel and concrete. It has excellent resistance to abrasion and is suitable for immersion as well as chemical contact exposure. Contact your local Tnemec representative for a list of chemicals. This product can also be used for lining storage tanks that contain demineralized, deionized, or distilled water. Can serve as a block filler on cementitious or masonry substrates.

COLORS Refer to Tnemec Color Guide. **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.

FINISH Satin

SPECIAL QUALIFICATIONS Series L69 meets the requirements of LEED-Low-Emitting Materials, Collaborative for High-Performance Schools-Paints & Coatings, WELL Building Standard-VOC Restrictions, and Living Building Challenge–Healthy Interior Performance. Contact your Tnemec representative for more information.

This product is part of a coating system tested in accordance with ISO 12944-6 (2018). Contact your Tnemec representative for coating system test results.

COATING SYSTEM

SURFACER/FILLER/PATCHER Series 215, 217, 218

PRIMERS **Steel:** Self-priming or Series 1, 27, 37H, 66, L69F, N69, N69F, V69, V69F, 90E-92, 90G-1K97, 90-97, H90-97, 90-98, 91-H_2O, 93-H_2O, 94-H_2O, 135, 161, 394
Galvanized Steel and Non-Ferrous Metal: Self-priming or Series 66, N69, V69, 1224. **Note:** For special galvanized surface preparation instructions, consult the latest version of Tnemec Technical Bulletin 10-78.
Concrete: Self-priming or Series 130, 1254
CMU: Self-priming or Series 130, 1254.

TOPCOATS Series 21, 22, 46H-413, 66, L69, L69F, N69, N69F, V69, V69F, 73, 104, 113, 114, 118, 141, 156, 157, 161, 180, 181, 287, 1026, 1028, 1029, 1070, 1070V, 1071, 1071V, 1072, 1072V, 1077, 1078, 1078V, 1080, 1081, 1094, 1095, 1096, 1224. **Note:** The following recoat times apply for Series L69: Immersion Service—Surface must be scarified after 60 days. Atmospheric Service—After 60 days, scarification or an epoxy tie-coat is required. 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 L69 may be applied to SSPC-SP2 or SP3 Hand or Power Tool Cleaned surfaces (SSPC Rust Grade Condition C).

GALVANIZED STEEL & NON-FERROUS METAL Surface preparation recommendations will vary depending on substrate and exposure conditions. Consult the latest version of Tnemec Technical Bulletin 10-78 or contact your Tnemec representative or Tnemec Technical Services.

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.

CMU Allow mortar to cure for 28 days. Level protrusions and mortar spatter.

PAINTED SURFACES **Non-Immersion Service:** Ask your Tnemec representative for specific recommendations.

PRIMED SURFACES **Immersion Service:** Scarify the Series L69 prime coat surface by abrasive-blasting with a fine abrasive before topcoating if the Series L69 prime coat has been in exterior exposure for 60 days or longer and Series 66, L69, L69F, N69, N69F, V69, V69F or 161 is the specified topcoat.

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

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Published technical data and instructions are subject to change without notice. The online catalog at www.tnemec.com should be referenced for the most current technical data and instructions or you may contact your Tnemec representative for current technical data and instructions.

HI-BUILD EPOXOLINE® II | SERIES L69

TECHNICAL DATA

VOLUME SOLIDS 65.0 ± 2.0% (mixed) †

RECOMMENDED DFT 2.0 to 10.0 mils (50 to 255 microns) per coat. **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. **Note:** For faster curing and lower temperature applications, add No. 44-700 Epoxy Accelerator; see separate product data sheet for cure information

VOLATILE ORGANIC COMPOUNDS
Unthinned: 0.79 lbs/gallon (95 grams/litre) (TBAc Exempt)
Unthinned: 1.05 lbs/gallon (126 grams/litre)
Thinned 5% (No. 49 Thinner): 0.79 lbs/gallon (95 grams/litre) (TBAc Exempt)
Thinned 5% (No. 49 Thinner): 1.05 lbs/gallon (126 grams/litre)
Thinned 10% (No. 4 Thinner): 1.52 lbs/gallon (182 grams/litre) (TBAc Exempt)
Thinned 10% (No. 4 Thinner): 1.72 lbs/gallon (206 grams/litre) †

HAPS
Unthinned: 0.10 lbs/gal solids
Thinned 5% (No. 49 Thinner): 0.10 lbs/gal solids
Thinned 10% (No. 4 Thinner): 0.95 lbs/gal solids

THEORETICAL COVERAGE 1,043 mil sq ft/gal (25.6 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)

Note: Series 211-220 Glass Flake Additive may be added at the rate of 1 quart to Series L69 Small Kit.

NET WEIGHT PER GALLON 13.40 ± 0.25 lbs (6.08 ± 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: 98°F (37°C) Part B: 95°F (35°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

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m²/Gal)
Suggested (1)	6.0 (150)	9.0 (230)	174 (16.1)
Minimum	2.0 (50)	3.0 (75)	521 (48.4)
Maximum	10.0 (255)	15.5 (395)	104 (9.7)

Dense Concrete & Masonry: From 100 to 150 sq ft (9.3 to 13.9 m²) per gallon.
CMU: From 75 to 100 sq ft (7.0 to 9.3 m²) per gallon.
(1) Note for Steel: Roller or brush application requires two or more coats to obtain recommended film thickness. Also, Series L69 can be spray applied to an optional high-build film thickness range of 8.0 to 10.0 dry mils (205 to 255 dry microns) or 12.5 to 15.5 wet mils (320 to 395 wet microns). 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 Start with equal amounts of Series L69 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 L69 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 Thinner or No. 49 Thinner. For air spray, thin up to 5% or 1/4 pint (190 mL) per gallon. For airless spray, roller or brush, thin up to 5% or 1/4 pint (190 mL) per gallon.

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)

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SPRAY LIFE

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

APPLICATION EQUIPMENT

Air Spray •

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss JGA	E	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)

Low temperatures or longer hoses require higher pot pressure.

Airless Spray •

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.015"-0.019" (380-485 microns)	3500-5100 psi (241-351 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.
• Spray application of first coat on CMU should be followed by backrolling.
Note: Application over inorganic zinc-rich primers: Apply a wet mist coat and allow tiny bubbles to form. When bubbles disappear in 1 to 2 minutes, apply a full wet coat at specified mil thickness.
Roller: Use 3/8" or 1/2" (9.5 mm or 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

Minimum 50°F (10°C), Maximum 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.

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