



# HI-BUILD EPOXOLINE II N69 or V69

## PRODUCT PROFILE

**GENERIC DESCRIPTION** Polyamidoamine Epoxy

**COMMON USAGE** An advanced generation 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. **Note:** Series V69 conforms with air pollution regulations limiting Volatile Organic Compounds (VOC) to a maximum of 250 grams/litre (2.08 lbs/gal). In areas requiring less than 100 grams/litre VOC, please refer to the Series L69 data sheet.

**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** A two-coat system at 4.0-6.0 dry mills (100-150 dry microns) per coat passes the performance requirements of **MIL-PRF-4556F** for fuel storage.

**PERFORMANCE CRITERIA** Extensive test data available. Contact your Tnemec representative for specific test results.

## COATING SYSTEM

**PRIMERS** **Steel:** Self-priming or Series 1, 27, 37H, 66, L69, L69F, N69F, V69F, 90E-92, 90-97, H90-97, 90G-1K97, 90-98, 91-H<sub>2</sub>O, H91-H<sub>2</sub>O, 94-H<sub>2</sub>O, 135, 161, 394, 530  
**Galvanized Steel and Non-Ferrous Metal:** Self-priming or Series 66, L69, L69F, N69F, V69F, 161  
**Concrete:** Self-priming or Series 130, 215, 218  
**CMU:** Self-priming or 130, 215, 218, 1254

**TOPCOATS** 22, 46H-413, 66, L69, L69F, N69, N69F, V69, V69F, 72, 73, 84, 104, 113, 114, 141, 156, 157, 161, 175, 180, 181, 287, 446, 740, 750, 1028, 1029, 1070, 1070V, 1071, 1071V, 1072, 1072V, 1074, 1074U, 1075, 1075U, 1077, 1078, 1080, 1081. Refer to COLORS on applicable topcoat data sheets for additional information. **Note:** The following recoat times apply for Series N69/V69: Immersion Service—Surface must be scarified 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 N69/V69 is 30 days for atmospheric service. Contact your Tnemec representative for specific recommendations.

## SURFACE PREPARATION

**PRIMED STEEL** **Immersion Service:** Scarify the epoxy prime coat surface by abrasive blasting with fine abrasive before topcoating if it has been exterior exposed for 60 days or longer and N69/V69 is the specified topcoat.

**STEEL** **Immersion Service:** SSPC-SP10/NACE 2 Near-White Blast Cleaning with a minimum angular anchor profile of 1.5 mils. **Non-Immersion Service:** SSPC-SP6/NACE 3 Commercial Blast Cleaning with a minimum angular anchor profile of 1.5 mils.

**GALVANIZED STEEL & NON-FERROUS METAL** Surface preparation recommendations will vary depending on substrate and exposure conditions. Contact your Tnemec representative or Tnemec Technical Services.

**CAST/DUCTILE IRON** Contact your Tnemec representative or Tnemec Technical Services.

**CONCRETE** Allow new concrete to cure 28 days. For optimum results and/or immersion service, abrasive blast referencing SSPC-SP13/NACE 6, ICRI CSP 2-4 Surface Preparation of Concrete and Tnemec's Surface Preparation and Application Guide.

**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.

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

## TECHNICAL DATA

**VOLUME SOLIDS** 67.0 ± 2.0% (mixed) †

**RECOMMENDED DFT** 2.0 to 10.0 mils (50 to 255 microns) per coat. **Note:** MIL-PRF-4556F applications require two coats at 4.0-6.0 mils (100-150 microns) per coat. Otherwise, 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)	4 hours	7 hours	6 days
80°F (27°C)	5 hours	8 hours	7 days
70°F (21°C)	7 hours	10 hours	7 days
60°F (16°C)	8 hours	12 hours	9 days
50°F (10°C)	12 hours	16 hours	12 days

Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For faster curing and low-temperature applications, add No. 44-700 Epoxy Accelerator; see separate product data sheet.

**VOLATILE ORGANIC COMPOUNDS** **N69 - Unthinned:** 2.40 lbs/gallon (285 grams/litre) **V69 - Unthinned:** 1.95 lbs/gallon (234 grams/litre)  
**Thinned 10% (No. 4 Thinner):** 2.80 lbs/gallon (334 grams/litre) **Thinned 2.5%:** 2.08 lbs/gallon (250 grams/litre) †  
**Thinned 10% (No. 60 Thinner):** 2.80 lbs/gallon (335 grams/litre)

**HAPS** **N69 - Unthinned:** 2.40 lbs/gal solids **V69 - Unthinned:** 2.05 lbs/gal solids  
**Thinned 10% (No. 4 Thinner):** 3.25 lbs/gal solids **Thinned 2.5%:** 2.30 lbs/gal solids  
**Thinned 10% (No. 60 Thinner):** 2.40 lbs/gal solids

**THEORETICAL COVERAGE** 1,074 mil sq ft/gal (26.4 m<sup>2</sup>/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.

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<b>PACKAGING</b>	5 gallon (18.9L) pails and 1 gallon (3.79L) cans — Order in multiples of 2.
<b>NET WEIGHT PER GALLON</b>	N69: 13.67 ± 0.25 lbs (6.10 ± .11 kg) (mixed) V69: 14.01 ± 0.25 lbs (6.36 ± .11 kg) (mixed) †
<b>STORAGE TEMPERATURE</b>	Minimum 20°F (-7°C) Maximum 110°F (43°C)
<b>TEMPERATURE RESISTANCE</b>	(Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)
<b>SHelf LIFE</b>	Part A: 24 months; Part B: 12 months at recommended storage temperature.
<b>FLASH POINT - SETA</b>	N69 & V69 Part A: 82°F (28°C) N69 Part B: 93°F (34°C) V69 Part B: 86°F (30°C)
<b>HEALTH &amp; SAFETY</b>	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. <b>Keep out of the reach of children.</b>

## APPLICATION

### COVERAGE RATES

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m <sup>2</sup> /Gal)
Suggested (1)	6.0 (150)	9.0 (230)	179 (16.6)
Minimum	2.0 (50)	3.0 (75)	537 (49.9)
Maximum	10.0 (250)	15.0 (375)	107 (10.0)

**Dense Concrete & Masonry:** From 100 to 150 sq ft (9.3 to 13.9 m<sup>2</sup>) per gallon.

**CMU:** From 75 to 100 sq ft (7.0 to 9.3 m<sup>2</sup>) per gallon.

**(1) Note for Steel:** Roller or brush application requires two or more coats to obtain recommended film thickness. Also, Series N69 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 11.5 to 14.5 wet mils (209 to 370 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

1. Start with equal amounts of both Parts A & B.
  2. Using a power mixer, separately stir Parts A & B.
  3. (For accelerated version. If not using 44-700, skip to No. 4.) Add four (4) fluid ounces of 44-700 per gallon of Part A while Part A is under agitation.
  4. Add Part A to Part B under agitation, stir until thoroughly mixed.
  5. Both components must be above 50°F (10°C) prior to mixing. 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.
  6. For optimum application properties, the material temperature should be above 60°F (16°C).
- Note:** The use of more than the recommended amount of 44-700 will adversely affect performance.

### THINNING

Use No. 4 or No. 60 Thinner. For air spray, thin up to 10% or 3/4 pint (380 mL) per gallon. For airless spray, roller or brush, thin up to 5% or 1/4 pint (190 mL) per gallon. **Note:** When using Series V69, a maximum of 2.5% of No. 4 Thinner may be used to comply with VOC regulations.

### POT LIFE

Without 44-700: 15 hours at 50°F (10°C) 4 hours at 75°F (24°C) 3 hours at 100°F (38°C)  
With 44-700: 4 hours at 50°F (10°C) 2 hours at 75°F (24°C) 1 hour at 100°F (38°C)

### 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 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)	75-100 psi (5.2-6.9 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)	3000-4800 psi (207-330 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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