



ENDURA-SHIELD® SERIES 175

PRODUCT PROFILE

- GENERIC DESCRIPTION** Aliphatic Acrylic Polyurethane
- COMMON USAGE** A coating highly resistant to abrasion, wet conditions, corrosive fumes, chemical contact and exterior weathering. High build quality combines with project specific primers for two-coat, labor saving systems. Fast curing options are available; see Curing Time. NOT FOR IMMERSION SERVICE.
- COLORS** Refer to Tnemec Color Guide. **Note:** Certain colors may require multiple coats depending on method of application and finish coat color. When feasible, the preceding coat should be in the same color family (blue, gray, etc.), but noticeably different.
- FINISH** Eggshell
- PERFORMANCE CRITERIA** Extensive test data available. Contact your Tnemec representative for specific test results.

COATING SYSTEM

- PRIMERS**

Steel: Series 1, 20, 27, 37H, 66, L69, L69F, N69, N69F, V69, V69F, 90-97, 91-H₂O, 94-H₂O, 104, L140, L140F, N140, N140F, V140, V140F, 161, 394

Galvanized Steel and Non-Ferrous Metal: Series 66, N69, 161

Concrete: Series 66, L69, L69F, N69, N69F, V69, V69F, 104, 161

CMU: L69, L69F, N69, N69F, V69, V69F, 215

Note: Series L69, L69F, N69, N69F, V69, V69F, L140, L140F, N140, N140F, V140, or V140F, exterior exposed more than 30 days or the remaining primers exterior exposed for more than 60 days must first be scarified or reprimed with themselves. Brush blasting with fine abrasive is the preferred method of scarification.

SURFACE PREPARATION

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

TECHNICAL DATA

- VOLUME SOLIDS** 71 ± 2.0% (mixed) †
- RECOMMENDED DFT** 2.0 to 5.0 mils (50 to 125 microns) per coat. **Note:** Number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.

CURING TIME

Temperature	To Touch	To Handle	To Recoat
75°F (24°C)	1 hour	6 hours	8 hours

To resist moisture condensation: 6 hours. Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For faster curing and low-temperature applications, add No. 44-710 Urethane Accelerator; see separate product data sheet. Contact Tnemec Technical Services for force curing times and temperatures.

VOLITILE ORGANIC COMPOUNDS

†

Unthinned	No. 24 Thinner (Maximum 18%)	No. 39 Thinner (Maximum 20%)	No. 48 Thinner (Maximum 16%)
2.12 lbs/gallon (254 grams/litre)	2.83 lbs/gallon (340 grams/litre)	2.81 lbs/gallon (337 grams/litre)	2.83 lbs/gallon (339 grams/litre)

- THEORETICAL COVERAGE** 1,139 mil sq ft/gal (28.0 m²/L at 25 microns). See APPLICATION for coverage rates. †

- NUMBER OF COMPONENTS** Two: Part A and Part B

PACKAGING

Six Gallon Kit: Consists of five gallons of Part A in a six gallon pail and a one-gallon can of Part B. When mixed, yields six gallons (22.7L).
One Gallon Kit: Consists of a partially-filled one-gallon can labeled Part A and a partially-filled quart can labeled Part B. When mixed, yields one gallon (3.79L).

- NET WEIGHT PER GALLON** 13.06 ± 0.25 lbs (5.92 ± .11 kg) †

- 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 at recommended storage temperature.
Part B: 12 months at recommended storage temperature.

FLASH POINT - SETA

Part A: 98°F (37°C) Part B: 135°F (57°C)

HEALTH & SAFETY

This product contains 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.

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APPLICATION

COVERAGE RATES

Conventional Build (Spray, Brush or Roller)

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m ² /Gal)
Suggested	2.5 (65)	3.5 (90)	456 (42.3)
Minimum	2.0 (50)	3.0 (75)	570 (52.2)
Maximum	3.0 (75)	4.5 (115)	380 (35.3)

High-Build (Spray Only)

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m ² /Gal)
Suggested	4.0 (100)	6.0 (150)	285 (26.4)
Minimum	3.0 (75)	4.5 (115)	380 (35.3)
Maximum	5.0 (125)	7.5 (190)	228 (21.2)

Note: Can be spray applied at 3.0 to 5.0 mils (75 to 125 microns) DFT per coat when extra protection or the elimination of a coat is desired. 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

Stir contents of the container marked Part A, making sure no pigment remains on the bottom. Add the contents of the can marked Part B to Part A while under agitation. Continue agitation until the two components are thoroughly mixed. When used with 44-710 Urethane Accelerator, first blend 44-710 into Part A under agitation; continue as above. Do not use mixed material beyond pot life limits. **Caution: Part B is moisture-sensitive and will react with atmospheric moisture. Unused material must be kept tightly closed at all times.**

THINNING

For air or airless spray, thin 15% to 18% or 1 1/4 to 1 1/2 pints (570 to 680 mL) per gallon with No. 24 Thinner. For brush or roller thin 20% or 1 1/2 pints (760 mL) per gallon with No. 39 Thinner. For air or airless spray at temperatures above 90°F (32°C), thin up to 16% or 1 1/4 pints (600 mL) per gallon with No. 48 Thinner. **Note:** Thinning is required for proper application. **Caution: Do not add thinner if more than 30 minutes have elapsed after mixing.**

POT LIFE

2 hours at 77°F (25°C) unthinned 3 hours at 77°F (25°C) thinned
 1 hour at 100°F (38°C) unthinned 2 hours at 100°F (38°C) thinned

APPLICATION EQUIPMENT

Air Spray

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss JGA	E	704 or 765	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	80-90 psi (5.5-6.2 bar)	20-30 psi (1.4-2.0 bar)

Low temperatures or longer hoses require higher pot pressure

Airless Spray

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.013"-0.015" (330-381 microns)	3500-4000 psi (241-276 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	100 mesh (150 microns)

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

Roller: Use 1/4" (6.4 mm) synthetic nap cover. Do not use medium or long nap roller covers. Two coats are required to obtain dry film thickness above 3.0 mils (75 microns).

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

Note: Two coats are required to obtain recommended film thickness.

SURFACE TEMPERATURE

Minimum 40°F (4°C) Maximum 120°F (49°C)

The surface should be dry and at least 5°F (3°C) above the dew point.

Cure time necessary to resist direct contact with moisture at surface temperature:

40°F (4°C): 24 to 32 hours	50°F (10°C): 18 to 24 hours	60°F (16°C): 10 to 16 hours
70°F (21°C): 4 to 8 hours	90°F (32°C): 2 to 4 hours	100°F (38°C): 1 to 2 hours

If the coating is exposed to moisture before the preceding cure parameters are met, dull, flat or spotty-appearing areas may develop. Actual time will vary with air movement, film thickness and humidity.

CLEANUP

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

† Values may vary with color.

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