



ENDURA-SHIELD® SERIES 73

PRODUCT PROFILE

GENERIC DESCRIPTION	Aliphatic Acrylic Polyurethane
COMMON USAGE	A coating highly resistant to abrasion, wet conditions, corrosive fumes, chemical contact and exterior weathering. Direct-to-Metal capability allows for a labor-saving, high-build, single coat application. 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	Semi-gloss
SPECIAL QUALIFICATIONS	Series 73 meets the accelerated weathering requirements of SSPC Paint Standard 36.
PERFORMANCE CRITERIA	Extensive test data available. Contact your Tnemec representative for specific test results.

COATING SYSTEM

PRIMERS	<p>Steel: Self-priming or Series 1, 20, FC20, 27, 37H, 66, L69, L69F, N69, N69F, V69, V69F, 90-97, H90-97, 90G-1K97, 91-H₂O, H91-H₂O, 94-H₂O, 135, L140, L140F, N140, N140F, V140, V140F, 141, 161, 394, 530</p> <p>Galvanized Steel & Non-Ferrous Metal: Series 66, L69, L69F, N69, N69F, V69, V69F, 161</p> <p>Concrete: Series 66, L69, L69F, N69, N69F, V69, V69F, 141, 161, 1254</p> <p>CMU: Series 1254</p> <p>Note: Series 530 exterior exposed more than 24 hours, Series L69, N69, V69, 135, L140, N140, or V140 exterior exposed more than 60 days, Series L69F, N69F, V69F, L140F, N140F or V140F exterior exposed more than 30 days, or Series 141 exterior exposed more than 14 days must first be scarified or reprimed with themselves. Brush blasting with fine abrasive is the preferred method of scarification. Recoat windows for other primers may apply. See those data sheets for additional information.</p>
TOPCOATS	Series 700, 701, 740, 750, 1070, 1070V, 1071, 1071V, 1072, 1072V, 1074, 1074U, 1075, 1075U, 1077, 1078

SURFACE PREPARATION

STEEL	SSPC-SP6/NACE 3 Commercial Blast Cleaning or ISO Sa 2 Thorough Blast Cleaning with a minimum angular anchor profile of 2.0 mils.
ALL SURFACES	Must be clean, dry and free of oil, grease and other contaminants. See primer product data sheet for surface preparation recommendation.

TECHNICAL DATA

VOLUME SOLIDS	58.0 ± 2.0% (mixed) †
RECOMMENDED DFT	<p>Topcoat Service: 2.0 to 5.0 mils (50 to 125 microns) per coat.</p> <p>Direct-to-Metal Service: 3.5 to 5.0 mils (89 to 125 microns).</p> <p>Note: Number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.</p>

CURING TIME	Temperature	To Touch	To Handle	To Recoat
	75°F (24°C)	1 hour	5-8 hours	12 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.

VOLATILE ORGANIC COMPOUNDS	Unthinned	Thinned 10% (Max) (No. 39 Thinner)	Thinned 10% (Max) (No. 42 Thinner)	Thinned 10% (Max) (No. 48 Thinner)	Thinned 10% (Max) (No. 56 Thinner)	Thinned 10% (Max) (No. 63 Thinner)
	2.70 lbs/gallon (324 grams/litre)	3.05 lbs/gallon (366 grams/litre)	3.10 lbs/gallon (371 grams/litre)	3.15 lbs/gallon (378 grams/litre)	2.76 lbs/gallon (331 grams/litre)	3.07 lbs/gallon (368 grams/litre)

HAPS	Unthinned	Thinned 10% (Max) (No. 39 Thinner)	Thinned 10% (Max) (No. 42 Thinner)	Thinned 10% (Max) (No. 48 Thinner)	Thinned 10% (Max) (No. 56 Thinner)	Thinned 10% (Max) (No. 63 Thinner)
	0.27 lbs/gal solids	0.27 lbs/gal solids	0.27 lbs/gal solids	0.27 lbs/gal solids	0.27 lbs/gal solids	0.32 lbs/gal solids

THEORETICAL COVERAGE 930 mil sq ft/gal (22.8 m²/L at 25 microns). †

NUMBER OF COMPONENTS Two: Part A and Part B

MIXING RATIO By volume: Four (Part A) to one (Part B)

PACKAGING	PART A		PART B	When Mixed
	5 Gallon Kit		1 gallon can	5 gallons (18.9L)
	1 Gallon Kit		1 quart can (partial fill)	1 gallon (3.79L)

NET WEIGHT PER GALLON 12.13 ± 0.25 lbs (5.50 ± .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: 55°F (13°C) Part B: 112°F (43°C)

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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

Topcoat Service

	Dry Mills (Microns)	Wet Mills (Microns)	Sq Ft/Gal (m ² /Gal)
Suggested	2.5 (65)	4.5 (115)	372 (34.6)
Minimum	2.0 (50)	3.5 (90)	465 (43.2)
Maximum	3.0 (75)	5.0 (155)	310 (28.8)

Direct to Metal Service

	Dry Mills (Microns)	Wet Mills (Microns)	Sq Ft/Gal (m ² /Gal)
Suggested	4.0 (100)	7.0 (180)	233 (21.6)
Minimum	3.5 (90)	6.0 (150)	266 (24.7)
Maximum	5.0 (125)	8.5 (215)	186 (17.3)

(1) 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.

(2) Can be sprayed, brushed or rolled at 2.0 to 3.0 mils (50 to 75 microns) DFT per coat for use in systems requiring a conventional build topcoat.

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. †

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. Keep unused material tightly closed at all times.**

THINNING

For air spray, thin up to 10% or 3/4 pint (380 mL) per gallon by volume with No. 42 Thinner if temperatures are below 80°F (27°C), use No. 48 Thinner for temperatures above 80°F (27°C). Thin up to 5% or 1/4 pint (190 mL) per gallon for airless spray. For brush or roller, thin 5% to 10% or 1/4 to 3/4 pint (190 to 380 mL) per gallon with No. 39 or No. 63 Thinner. Thinning is required for proper brush or roller application. **Note:** A maximum of 10% of No. 56 Thinner may be used to comply with VOC regulations. **Caution: Do not add thinner if more than thirty (30) minutes have elapsed after mixing.**

POT LIFE

8 hours at 40°F (4°C) 4 hours at 77°F (25°C) 2 hours at 100°F (38°C)

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)	75-90 psi (5.2-6.2 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
0.013"-0.017" (330-430 microns)	2700-3300 psi (186-228 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.

Roller: Use 1/4" to 3/8" (6.4 mm to 9.5 mm) synthetic woven nap roller cover. Do not use long nap roller covers. **Note:** 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 or more coats may be required to obtain recommended film thicknesses.

SURFACE TEMPERATURE

Minimum 35°F (2°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 40 hours 50°F (10°C): 18 to 26 hours 60°F (16°C): 12 to 16 hours

70°F (21°C): 4 to 8 hours 90°F (32°C): 2 to 4 hours 100°F (38°C): 2 to 3 hours

If the coating is exposed to moisture before the preceding cure parameters are met, dull, flat or spotty appearing areas may develop. Actual times 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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