TNEMEC

PRODUCT DATA SHEET

PERMA-GLAZE® SERIES 435

PRODUCT PROFILE

GENERIC DESCRIPTION Modified Polyamine Epoxy

COMMON USAGE A versatile, thick film, 100% solids, abrasion-resistant lining specifically designed for wastewater immersion and fume environments. Provides low permeation to H_2S gas, protects against MIC and provides chemical resistance to severe wastewater environments.

COLORS 5021 Gray, 5022 Beige. **Note:** Epoxies chalk with extended exposure to sunlight.

FINISH Gloss

COATING SYSTEM

PRIMERS **Concrete:** Self-priming or Series 201.
Steel: Self-priming

SURFACER/FILLER/PATCHER Series 63-1500, 218, 219, 434.

INTERMEDIATE Series 434 (optional)

SURFACE PREPARATION

Prepare surfaces by method suitable for exposure and service. Refer to the appropriate primer data sheet for specific recommendations.

STEEL SSPC-SP5/NACE 1 White Metal Blast Cleaning with a 3.0 mil minimum anchor profile.

CONCRETE Allow new concrete to cure a minimum of 28 days. Verify dryness by testing for moisture with a "plastic film tape-down test" (Reference ASTM D 4263). If necessary for testing horizontal surfaces, perform "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" (Reference ASTM F 1869). Moisture content not to exceed three pounds per 1,000 sq ft in a 24 hour period. Abrasive blast or equivalent to remove laitance, form release agents, curing compounds, sealers and other contaminants and to provide surface profile (Reference SSPC-SP13/NACE 6, ICRI CSP5 or greater). Large voids, bugholes and other cavities should be filled with recommended filler or surfacer.

OTHER SUBSTRATES Contact your Tnemec representative or Tnemec Technical Services.

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

TECHNICAL DATA

VOLUME SOLIDS 100% (mixed)

RECOMMENDED DFT **Steel:** 15.0 to 40.0 mils (380 to 1015 microns) in one or two coats.
Concrete: 30.0 to 40.0 mils (760 to 1015 microns) in one or two coats.
Hi-Build Option: 40.0 to 80.0 mils (1015 to 2030 microns) in one or two coats.
Glaze Coat Option (over Series 434): 15.0 to 20.0 mils (380 to 510 microns).
Note: Number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.

CURING TIME

Temperature	To Topcoat	To Place in Service	Max. Recoat
75°F (24°C)	8-24 hours	2 days	7 days
55°F (13°C)	10-24 hours	3 days	7 days

If more than 7 days have elapsed between coats, the Perma-Glaze coated surface must be mechanically abraded before topcoating.

VOLATILE ORGANIC COMPOUNDS EPA Method 24: 0.23 lbs/gallon (27 grams/litre)

HAPS 0.11 lbs/gal solids

THEORETICAL COVERAGE 1,604 mil sq ft/gal (39.4 m^2/L at 25 microns). See APPLICATION for coverage rates.

NUMBER OF COMPONENTS Two: Part A and Part B

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

PACKAGING

	PART A	PART B	When Mixed
Large Kit †	5 gallon pail	5 gallon pail	10 gallons (37.85 L)
Medium Kit	6 gal. pail (partial fill)	3 gal. can (partial fill)	5 gallons (15.14 L)
Small Kit	1 gal. can (partial fill)	1 gal. can (partial fill)	1 gallon (3.79 L)

† Plural Component application only.

NET WEIGHT PER GALLON 11.16 ± 0.25 lbs (5.1 ± .11 kg) (mixed)

STORAGE TEMPERATURE Minimum 40°F (4°C) Maximum 110°F (43°C)
Prior to application, the material temperature should be between 70°F and 80°F (21°C and 27°C).

TEMPERATURE RESISTANCE (Dry) Continuous 275°F (135°C) Intermittent 300°F (149°C)

SHELF LIFE 12 months at recommended storage temperature.

FLASH POINT - SETA Part A: 170°F (77°C) Part B: 170°F (77°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.

APPLICATION

COVERAGE RATES

Before commencing, obtain and thoroughly read the Series 435 Surface Preparation and Application Guide.

	Conventional Build (Spray, Brush or Roller)			Hi-Build (Spray Only)		
	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m^2/Gal)	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m^2/Gal)
Minimum	15.0 (8.0)	15.0 (80)	107 (10.0)	40.0 (1015)	40.0 (1015)	40 (3.7)
Maximum	40.0 (1015)	40.0 (1015)	40 (3.7)	80.0 (2030)	80.0 (2030)	20 (1.9)

Note: Recommended DFT will depend on substrate condition and system design. Refer to Recommended DFT section on page 1. 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 B into the Part A 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. During the mixing process, scrape the sides and bottom of the container to ensure all of Parts A and B are blended together. Apply the mixed material within pot life limits after agitation. **Note:** A large volume of material will set up quickly if not applied or reduced in volume.
Caution: Do not reseal mixed material. An explosion hazard may be created. Mixing ratio is one to one by volume.

THINNING

DO NOT THIN

POT LIFE

25 to 30 minutes at 70°F (21°C) 15 to 20 minutes at 80°F (27°C) 8 to 10 minutes at 90°F (32°C)
Material temperatures above 90°F (32°C) will significantly reduce the spray and pot life.

SPRAY LIFE

15 to 20 minutes at 70°F (21°C) 5 to 10 minutes at 80°F (27°C)

APPLICATION EQUIPMENT

Airless spray.
Recommended spray application equipment includes a Graco "Xtreme-King" 68:1 or WIWA "Magnum" 64:1 airless spray pump or other airless spray equipment of equal or greater configuration and capability. (If a smaller pump such as 56:1 is to be used, the gun should be 24" to 36" from the surface for proper atomization. This application will provide an orange-peel finish. Also, with this method, material transfer rates will be reduced and uniform film thickness may be difficult to achieve.) Pump assembly should include a moisture trap and oiler, air regulator with gauge and fluid outlet drain valve, and outfitted with a gravity fed material hopper. Use a 3/8" to 1/2" I.D. material hose (7,000 psi working pressure rating). A WIWA 500 F or Graco XTR gun with tip sizes ranging from 0.023" to 0.033" may be used.

Airless Spray

Pump Size	Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
64:1 or 68:1	0.023"-0.033" (585-840 microns)	5500-6000 psi (279-414 bar)	3/8" to 1/2" (9.5 to 12.7 mm)	30 mesh

Note: Material needs to be gravity fed through a material hopper. Material will not feed through a suction tube.
Roller: Use high quality 3/8" to 1/2" synthetic woven nap roller covers.
Brush: Recommended for small areas only. Use high quality synthetic or nylon bristle brushes.
Plural Component: Please contact your Tnemec representative or Tnemec Technical Service for information.

SURFACE TEMPERATURE

Minimum of 50°F (10°C), optimum 65°F to 80°F (18°C to 27°C), maximum of 130°F (54°C). The substrate temperature should be at least 5°F (3°C) above the dew point.

MATERIAL TEMPERATURE

For optimum application, handling and performance, the material temperature during application should be between 70°F and 80°F (21°C and 27°C). Temperature will affect the workability. Cool temperatures increase viscosity and decrease workability. Warm temperatures will decrease viscosity and shorten the spray and pot life.

HOLIDAY TESTING

If required by project specifications, High Voltage Discontinuity (spark) testing shall be performed using a Tinker & Rasor AP/W High Voltage Holiday Tester. Contact Tnemec Technical Service for voltage recommendations.

CLEANUP

Flush and clean all equipment immediately after use with Tnemec's No. 4 Thinner or MEK.