



PROTUFF SERIES 138

PRODUCT PROFILE

- GENERIC DESCRIPTION** Phenalkamide Epoxy Finish
- COMMON USAGE** A high-build, surface tolerant epoxy mastic that can be applied over light corrosion and marginally prepared steel, in low-temperatures and over dew point conditions. Series 138 stands up to the harsh atmospheric environments found in industrial facilities. Its unique phenalkamide epoxy technology resists color shift, making it an ideal finish coat for harsh conditions.
- 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** Semi-gloss

COATING SYSTEM

- PRIMERS** Self-priming or Series 90-97, 132, 133
- TOPCOATS** Series 138, 1094, 1095, 1096. **Note:** The following maximum recoat time applies when using Series 138, 1094, 1095 or 1096: twenty one (21) days. If this time limit is exceeded, Series 138 must be uniformly scarified prior to topcoating.

SURFACE PREPARATION

- STEEL** Minimum surface preparation of bare steel or previously painted steel requires a cleanliness level as defined by SSPCSPWJ-4/NACE WJ-4 Light Cleaning by use of Low Pressure Water Cleaning (LP WC) between 3,500 and 5,000 psi using a 0 degree rotating nozzle. If all visible contaminates, loose mill scale, loose rust and other corrosion products, and loose paint have not been removed, SSPC-SP2 Hand Tool Cleaning or SSPC-SP3 Power Tool Cleaning should be employed until the surface cleanliness definition is met.
- GALVANIZED STEEL & NON-FERROUS METAL** Surface preparation recommendations will vary depending on substrate and exposure conditions. Contact your Tnemec representative or Tnemec Technical Services.
- PAINTED SURFACES** Test patch is recommended.
- ALL SURFACES** Must be clean and free of oil, grease and other contaminants.

TECHNICAL DATA

- VOLUME SOLIDS** 79.0 ± 2.0%
- RECOMMENDED DFT** 4.0 to 10.0 mils (100 to 255 microns)
- CURING TIME**

Temperature	To Handle/To Recoat	Max Recoat
90°F (32°C)	4 hours	21 days
75°F (24°C)	12 hours	21 days
65°F (18°C)	16 hours	21 days
55°F (11°C)	24 hours	21 days
45°F (7°C)	48 hours	21 days
35°F (2°C)	72 hours	21 days

- VOLATILE ORGANIC COMPOUNDS** **Unthinned:** 1.46 lbs/gal (175 grams/litre)
Thinned 5% (No. 2 Thinner): 1.73 lbs/gal (208 grams/litre)
- HAPS** **Unthinned:** 1.60 lbs/gal solids
Thinned 5% (No. 2 Thinner): 2.05 lbs/gal solids
- THEORETICAL COVERAGE** 1267 mil sq ft/gal (31.1 m²/L at 25 microns). See APPLICATION for coverage rates.
- NUMBER OF COMPONENTS** Two: Part A and Part B
- MIXING RATIO** By volume: Two (Part A) epoxy to one (Part B) amine.
- PACKAGING**

	Part A (partially filled)	Part B (partially filled)	When Mixed
Large Kit	1-6 gallon pail	1-3 gallon pail	5 gallons (18.9 L)
Small Kit	1-1 gallon can	1-1 gallon can	1 gallon (3.79 L)

- NET WEIGHT PER GALLON** 12.56 ± 0.25 lbs (5.7 ± .11 kg) (mixed)
- STORAGE TEMPERATURE** Minimum 50°F (10°C) Maximum 80°F (27°C)
- TEMPERATURE RESISTANCE** (Dry) Continuous 225°F (107°C)
- SHELF LIFE** 12 months at recommended storage temperature.
- FLASH POINT - SETA** Part A: 82°F (28°C) Part B: 96°F (36°C)
- HEALTH & SAFETY**

This product contains chemical ingredients which are considered hazardous. Read container label warning and Safety Data Sheet for important health and safety information prior to the use of this product.
Keep out of the reach of children.

PROTUFF | SERIES 138

APPLICATION

COVERAGE RATES

Dry Mils (microns)	Wet Mils (microns)	Sq Ft/Gal (m ² /gal)
4.0 (100)	5.0 (125)	309 (28.7)
10.0 (255)	13.0 (330)	124 (11.5)

MIXING

Power mix contents of each container, 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. Do not use mixed material beyond pot life limits. **Note:** Both components must be above 50°F (10°C) prior to mixing. For application to surfaces between 35°F to 60°F (2°C to 16°C), allow mixed material to stand thirty (30) minutes and restir before using. For optimum application properties, blended components should be above 60°F (16°C).

THINNING

Thin up to 5% or 1/4 pint (190 mL) per gallon with No. 2 Thinner.

POT LIFE

1 hour at 75°F (24°C)

SUBSTRATE CONDITIONING

Do not apply over puddles, ponding, or standing water. All standing and heavy accumulations of water must be removed before application. In the case of sweating pipes accumulated water must be removed. Brush, roll, or spray/backroll to displace water and create a monolithic film in direct contact with substrate.

APPLICATION EQUIPMENT

Airless Spray

Pump Size	Tip Orifice	Atomizing Pressure Mat'l Hose ID	Manifold Filter
45:1 or greater	0.017" - 0.021" (430 - 555 microns)	3,500 - 4,500 psi (241 - 310 bar)	1/4" to 1/2" (6.4 - 12.7 mm)

Brush: Recommended for small areas only. Use high quality synthetic or nylon bristle brushes.
Roller: Use high quality 3/8" to 1/2" synthetic woven nap roller covers.

SURFACE TEMPERATURE

Minimum 35°F (2°C) Maximum 135°F (57°C)

CLEANUP

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

WARRANTY & LIMITATION OF SELLER'S LIABILITY: Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc. THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The buyer's sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event a defective condition of the product should be found to exist and the exclusive remedy shall not have failed its essential purpose as long as Tnemec is willing to provide comparable replacement product to the buyer. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, ENVIRONMENTAL INJURIES OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating.