



SURFACE PREPARATION AND APPLICATION GUIDE

SERIES 975 AEROLON®
INSULATING COATING SYSTEM

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Published technical data, instructions, and pricing are subject to change without notice. Contact your Tnemec technical representative for current technical data, instructions, and pricing. Warranty information: The service life of Tnemec's coatings will vary. For warranty, limitation of seller's liability, and product information, please refer to Tnemec's Product Data Sheets at www.tnemec.com or contact your Tnemec Technical Representative. 06/2023

TABLE OF CONTENTS

Introduction.....	1
Products & Packaging.....	1
Surface Preparation.....	1
Coating System.....	1-2
Mixing.....	2
Cure Schedule.....	2
Application Equipment.....	2-3
Damage & Corrosion Repair.....	3-4
Health & Safety.....	4

INNOVATION IN EVERY COAT.™

1.0 INTRODUCTION

The purpose of this guide is to acquaint contractors and applicators with the basic information necessary for properly ordering, storing and installing Tnemec's Series 975 Aerolon. Prior to starting work, please read this entire guide carefully. This application guide cannot cover every issue that may be encountered in the field. If you have questions, please contact your Tnemec representative or call +1-816-483-3400 for assistance. It is important that you obtain answers to any questions before work begins.

Please review all pertinent product data sheets. Also, reference the project specifications and compare them with the product data sheet. Resolve any inconsistencies prior to starting work.

2.0 PRODUCTS AND PACKAGING

The following contains information on the core components of this product.

2.1 SERIES 975 AEROLON

Series 975 Aerolon is an innovative, fluid applied, thermal insulating coating ideal for insulating pipes, valves, tanks, structural steel, or other substrates where thermal improvement, condensation reduction, or personnel protection is desired. This unique formulation is highly filled with a hydrophobic, insulative particle offering exceptional thermal performance and features a water-based resin system with excellent adhesion and durability. Part of a corrosion-resistant coating system that bonds to the substrate, greatly reducing the issues associated with corrosion under insulation (CUI), and mitigating thermal bridging by controlling condensation.

2.2 PACKAGING

Series 975 is a one-component product with the insulative particles contained in the mix. It is packaged in a five-gallon pail yielding 4 gallons (15.1 L) or a one-gallon can yielding one gallon (3.78 L).

2.3 SERIES 975 COVERAGE RATES

	DRY MILS (MICRONS)	WET MILS (MICRONS)	SQ. FT./GAL (M ² /GAL)
Minimum	40.0 (1015)	56.0 (1400)	28 (2.6)
Maximum	50.0 (1270)	70.0 (1750)	23 (2.1)

Practical coverage rates per coat. Allow for overspray and surface irregularities. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect cure and coating performance.

2.4 STORAGE TEMPERATURE

Product must be stored in a dry environment in unopened containers. Storage temperatures should be between 40°F to 110°F (4°C to 43°C). **PROTECT FROM FREEZING.**

2.5 SHELF LIFE

Twelve (12) months in original, unopened packaging at recommended storage temperature.

3.0 SURFACE PREPARATION

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

3.1 PREPARATION OF CONCRETE

Allow new cast-in-place concrete to cure a minimum of 28 days at 75°F (24°C). Verify concrete dryness in accordance with ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" (moisture vapor transmission should not exceed three pounds per 1,000 square feet in a 24 hour period), F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes" (relative humidity should not exceed 80%), or D 4263 "Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method" (no moisture present). Prepare concrete surfaces in accordance with NACE No. 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Abrasive blast, shot-blast, or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers and other contaminants and to provide a minimum ICRI-CSP 2-4 surface profile. Refer to the appropriate primer product data sheet for more information regarding the recommended surface preparation for concrete.

3.2 CMU

Allow mortar to cure for 28 days. For optimum results and/or immersion services, abrasive blast referencing SSPC-SP13/NACE 6 to level protrusions and mortar splatter and remove other contaminants. Refer to the appropriate primer product data sheet for more information regarding the recommended surface preparation for CMU.

3.3 NON-FERROUS METAL

Surface preparation recommendations will vary depending on substrate and exposure conditions. Contact Tnemec Technical Service for more information on applying Series 975 over non-ferrous metals.

3.4 STEEL (NON-IMMERSION SERVICE)

The preferred method of surface preparation should be a minimum SSPC-SP6/NACE 3 Commercial Blast Cleaning. When blasting is not an option, other surface preparation techniques may be appropriate. Contact Tnemec Technical Services for more information. Refer to the appropriate primer product data sheet for more information regarding the recommended surface preparation for steel.

4.0 COATING SYSTEM - PRIMERS & TOPCOATS

4.1 PRIMERS

A variety of primers are available for use under Series 975 depending on the required corrosion resistance and operating temperatures. Series 1224 Epoxoline WB is an inorganic hybrid, water-based epoxy that provides good corrosion protection and resists operating temperatures up to 350°F (177°C). Series 90-97 Tnemec-Zinc, an organic zinc-rich urethane, and Series 90E-92 Tnemec-Zinc, an inorganic zinc-rich coating, provide galvanic protection to carbon steel substrates and are therefore recommended for areas where

excellent corrosion protection is required. Both Series 90-97 and 90E-92 are typically recommended for use in operating temperatures less than 120°F (49°C). This is due to a phenomenon sometimes encountered under insulation called “reverse polarity”, or “galvanic reversal”, whereas the zinc becomes cathodic to the carbon steel substrate resulting in increased corrosion rates. Tnemec recommends referring to NACE SP0198-2010 (Subsection 4.3.5) for more information on this topic and consulting with the owner or engineer. Please reference the corresponding product data sheet for specific information on the primers mentioned above. Additional primers may be acceptable, please contact your Tnemec representative or Tnemec Technical Services for more information.

4.2 TOPCOATS

Tnemec offers several topcoats for Series 975 that can be selected based on the expected exposure conditions. Series 1028T, a high-dispersion pure acrylic, Series 1095 an aliphatic acrylic polyurethane, and Series 1224, an inorganic water based epoxy; provide excellent service in both interior and exterior environments. Each of these products may be applied by brush, roll, or spray; however, due to the textured surface of Series 975 it is recommended that the topcoat be back-rolled after spray application to achieve proper coverage. Please refer to the appropriate product data sheet for specific product information. Other topcoats may be available depending on project requirements.

5.0 MIXING

Tnemec Series 975 Aerolon is supplied in five-gallon pails and one-gallon cans. The five-gallon pail includes a foil vapor barrier that must be removed before mixing. Each container is partially filled to provide additional space for mixing the material. Mix thoroughly under low agitation using a box blade (H-paddle). Thoroughly clean the box blade (H-Paddle) and equipment with clean water directly following mixing to avoid product build-up.

5.1 SURFACE TEMPERATURE

Minimum surface temperature is 45°F (7°C) and maximum is 200°F (93°C) during application. The surface should be dry and at least 5°F (3°C) above the dew point.

5.2 THINNING

Thinning is not normally required but when needed, thin up to 3% or 3.5 ounces (104 mL) per gallon with clean tap water.

6.0 CURE SCHEDULE

TEMPERATURE	TO TOUCH	TO HANDLE	TO RECOAT†	TO TOPCOAT
95°F (35°C)	45 minutes	8 hours	9 hours	12 hours
75°F (24°C)	2 hours	16 hours	18 hours	24 hours
45°F (7°C)	4 hours	24 hours	28 hours	36 hours

†Recoat times listed are with itself. Curing time varies with surface temperature, air movement, humidity and film thickness.

7.0 APPLICATION EQUIPMENT

Series 975 can be applied using a low pressure equipment ranging from a texture spray gun with hopper assembly to TexSpray Texture Sprayers. The selection of the appropriate equipment will depend upon the size and scope of the project. **Note:** Hydraulic piston pumps are not recommended.

7.1 TEXTURE SPRAY GUN

The texture spray gun with hopper and 3/16” tip is recommended for use on small area applications or for product demonstrations. A 1.5 gallon (5.7 L) heavy duty plastic hopper should be used with a 2.4 CFM air supply. See figure 1.0 below. Maintain a distance between substrate and spray gun of 12” (30 cm) or less to achieve a continuous film and avoid a highly textured surface due to dry-spray. Atomizing pressure normally ranges from 60 to 90 psi (4-5 bar).



Figure 1.0 Spray Gun with 1.5 Gallon (5.7 L) hopper attached.

7.2 LOW PRESSURE DISPLACEMENT PUMPS

Product application rates will vary depending upon the equipment selected and can range from one pint (16 oz) per minute to 1.5 gallons per minute. The following are a few readily available pumps that can be used. Contact Tnemec Technical Services for recommended equipment modifications.

7.3 GRACO RTX 5000PI

The Graco RTX 5000PI, equipped with RotoFlex HD Pump, is the standard application equipment recommended for small, medium, and large area spray applications. **Note:** Graco RTX 5500, 2500, and 1400 may also be used as application equipment.

Series 975 can be spray-applied by the Graco RTX 5000PI as supplied by the pump manufacturer. It features trigger-activated power that automatically starts and stops the compressor.



Pump	Graco RTX 5000PI RotoFlex HD
Gun	Texspray Air Spray Gun
Material Hose ID	1" ID Hose (25' - 50')
Nozzle	4 mm or 6 mm†

† Nozzle size will be dependant on application. The 4 mm nozzle is recommended for small application areas to avoid material waste. The 6 mm nozzle is recommended for use on large applications.

7.4 PRECONDITIONING OF PUMP AND LINES

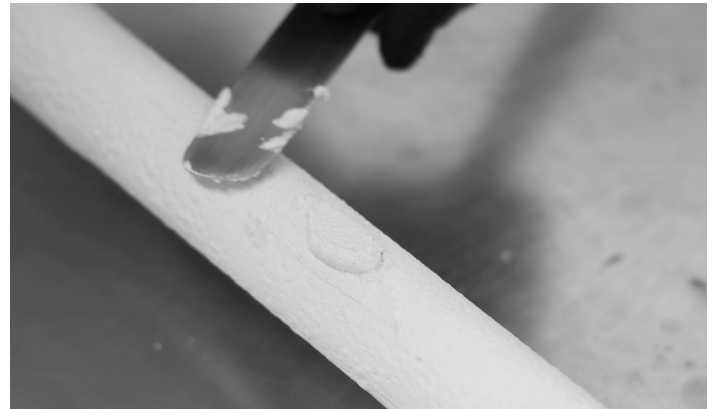
Prior to application, precondition the pump and lines by thoroughly flushing with clean water. Add Series 975 to hopper and spray material into waste bucket until the consistency is that of mixed Aerolon and the preconditioning water is clearly flushed. Do not reuse the material diluted with water.

8.0 DAMAGE AND CORROSION REPAIR

Series 975 is easily repaired if physically damaged or if substrate corrosion is evident. The following steps can be taken to repair the Series 975 coated surface.



Step 1: Identify the area of the coating where corrosion or damage has occurred. Using a utility or sharp putty knife, remove the Series 975 coated surface around the affected area. Lightly sand the edges of the trimmed surface and prepare the substrate according to SSPC-SP2 or SSPC-SP3 Hand or Powering Tool cleaning. Apply the specified primer according to the product data sheet. The primer application should be contained within the confines of the prepared substrate



Step 2: Once the primed surface has properly cured, use a putty knife to apply Series 975 ensuring the surface is fully covered. Backroll with a loop roller or lightly coat the repaired area with a hopper gun to achieve a consistent appearance with the surrounding coating. Do not exceed 50 mils (1270 microns) DFT per lift to avoid cracking due to surface cure. Multiple applications may be required to achieve the original Aerolon thickness.



Step 3: The specified topcoat may be applied by brush or roller. Reference the appropriate product data sheet for return to service times.

9.0 HEALTH & SAFETY

Series 975 Aerolon is for industrial use only and should be installed by qualified coating and lining application specialists only. The insulative particles found in Aerolon can irritate eyes, nose, and throat when spray-applied. The application area should be contained using plastic sheeting and applicators should use proper personal protection equipment (PPE) including respirators and safety goggles. It is also recommended to cover any exposed skin to prevent irritation.

Series 975 contains chemical ingredients which are considered hazardous and proper containment and ventilation are required when applied within an enclosed area. 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 reach of children.