

# Tnemec Water And Waste Treatment Plants Finish Painting Coatings Schedule

## NOTES:

#1. Please list the following coatings manufacturers who have demonstrated the ability to manufacture industrial, high performance coatings as appropriate equals to those manufactured by the Tnemec Company, listed herein and noted as a standard of quality.

- Dupont
- Rust-o-leum
- Or Approved Equal

#2. Specification sections requiring primer coordination with the finish painting schedule, include shop priming for:

- Section 05100 Structural Steel
- Section 05500 Miscellaneous Metals
- Section 14000 Conveying Systems
- Section 15000 HVAC Air Handling Units and Piping
- Section 03180 Concrete Lining System

#3. Products listed for Secondary Containment in spec section D & E are suitable for most applications. Please consult with your Tnemec Representative regarding specific chemical resistance data, (800) 533-3003.

*Note: Delete systems not applicable to project.*

A. CARBON STEEL: (structural steel, miscellaneous metal, tanks, pipes, and equipment)

1. Exterior Steel - Non-Immersion:

- |                              |                                        |
|------------------------------|----------------------------------------|
| a. Shop Surface Preparation: | SSPC SP6 Commercial Blast Cleaning     |
| b. Shop Primer Coat:         | Series 90G-1K97 Tneme-Zinc             |
| i) Dry Film Thickness:       | 2.5 to 3.5 mils DFT                    |
| c. Full Field Prime Coat:    | Series N69-color Hi-Build Epoxoline II |
| i) Dry Film Thickness:       | 3.0 to 5.0 mils DFT                    |
| d. Finish Coat:              | Series 73-color Endura-Shield          |
| i) Dry Film Thickness:       | 2.5 to 5.0 mils DFT                    |
| e. Total Dry Film Thickness: | 8.0 to 13.5 mils DFT                   |

2. Interior Steel - Non-Immersion (moderate chemical and dry exposure) for Structural Steel, pumps, valves, mechanical equipment, etc: (Areas such as machine rooms, equipment maintenance and laboratories)

- |                              |                                        |
|------------------------------|----------------------------------------|
| a. Shop Surface Preparation: | SSPC SP6 Commercial Blast Cleaning     |
| b. Shop Primer Coat: *       | Series 90G-1K97 Tneme-Zinc             |
| i) Dry Film Thickness:       | 2.5 to 3.5 mils DFT                    |
| c. Full Field Prime Coat:    | Series N69-color Hi-Build Epoxoline II |
| i) Dry Film Thickness:       | 3.0-5.0 mils DFT                       |
| d. Finish Coat:              | Series N69-color Hi-Build Epoxoline II |
| i) Dry Film Thickness:       | 3.0-5.0 mils DFT                       |
| e. Total Dry Film Thickness: | 8.5-13.5 mils DFT                      |

*Note: For maintenance and conditions where blast cleaning is not practical use system below.*

3. Interior Steel - Non-Immersion:

- a. Field/Shop Surface Preparation: SSPC SP2 Hand or SP3 Power Tool Cleaning
- b. Shop Primer Coat: Series 1 Omnithane
  - i) Dry Film Thickness: 2.5-3.0 mils DFT
- c. Full Field Prime Coat: Series N69 Hi-Build Epoxoline II
  - i) Dry Film Thickness: 3.0-4.0 mils DFT
- d. Finish Coat: Series N69 Hi-Build Epoxoline II
  - i) Dry Film Thickness: 3.0-4.0 mils DFT
- e. Total Dry Film Thickness: 8.5 -11.0 mils DFT

4. Interior or Exterior Steel - Immersion; Non-Potable

- a. Shop Surface Preparation: SSPC SP10 Near White Blast Cleaning
- b. Shop Primer Coat: Series N69 Hi-Build Epoxoline II
  - i) Dry Film Thickness: 3.0-5.0 mils DFT
- c. Field Surface Preparation: SSPC-SP7 Shop Primer to provide uniform profile. SSPC SP11 any damaged primer or welded connections. Spot prime with field primer.
- d. Field Prime Coat: Series 435 Perma-Glaze
  - i) Dry Film Thickness: 15.0-20.0 mils DFT
- e. Finish Coat: Series 435 Perma-Glaze
  - i) Dry Film Thickness: 15.0-20.0 mils DFT
- f. Total Dry Film Thickness: 33.0-45.0 mils DFT

5. Interior or Exterior Steel - Immersion; Potable:

- a. Shop Surface Preparation: SSPC-SP10 Near White Blast Cleaning
- b. Shop Primer Coat: Series 94 H2O HydroZinc
  - i) Dry Film Thickness: 2.5 to 3.5 mils DFT
- c. Field Surface Preparation: Pressure Wash Shop Primer to remove surface contamination. SSPC SP11 any damaged primer or welded connections. Spot prime with shop primer.
- d. Full Field Prime Coat: Series N140 Pota-Pox Plus
  - i) Dry Film Thickness: 6.0 to 8.0 mils DFT
- e. Finish Coat: Series N140 Pota-Pox Plus
  - i) Dry Film Thickness: 6.0 to 8.0 mils DFT
- f. Total Dry Film Thickness: 14.5 to 19.5 mils DFT

B. MILL COATED DUCTILE IRON PIPE:

1. Exterior or Interior - Non-Immersion:

- a. Shop Surface Preparation: NAPF 500-03-03 Power Tool Cleaning
- b. Shop Primer Coat: Series 1 Omnithane
  - i) Dry Film Thickness: 2.5-3.5 mils DFT
- c. Field Surface Preparation: Pressure Wash Shop Primer to remove surface contamination. SSPC SP11 any

- d. Full Field Prime Coat:
  - i) Dry Film Thickness: 4.0 to 6.0 mils DFT
- e. Exterior Finish Coat:
  - i) Dry Film Thickness: 2.5 to 5.0 mils DFT
- f. Interior Finish Coat:
  - i) Dry Film Thickness: 4.0-6.0 mils DFT
- g. Total Dry Film Thickness: 9.0-15.5 mils DFT

2. Exterior or Interior - Immersion; Non-Potable

- a. Shop Surface Preparation: NAPF 500-03-04 Abrasive Blast Cleaning
- b. Shop Primer Coat: Series 1 Omnithane
  - i) Dry Film Thickness: 2.5 to 3.5 mils DFT
- c. Field Surface Preparation: Pressure Wash Shop Primer to remove surface contamination. SSPC SP11 any damaged primer or welded connections. Spot prime with shop primer.
- d. Full Field Prime Coat: Series 446 Omnithane
  - i) Dry Film Thickness: 6.0 to 7.0 mils DFT
- e. Finish Coat: Series 446 Omnithane
  - i) Dry Film Thickness: 6.0 to 7.0 mils DFT
- f. Total Dry Film Thickness: 14.5 to 17.5 mils

3. Exterior or Interior - Immersion; Potable

- a. Shop Surface Preparation: SSPC-SP10 Near-White Blast Cleaning
- b. Shop Primer Coat: Series 1 Omnithane
  - i) Dry Film Thickness: 2.5 to 3.5 mils DFT
- c. Field Surface Preparation: Pressure Wash Shop Primer to remove surface contamination. SSPC SP11 any damaged primer or welded connections. Spot prime with shop primer.
- d. Full Field Prime Coat: Series N140 Pota-Pox Plus
  - i) Dry Film Thickness: 6.0 to 8.0 mils DFT
- e. Finish Coat: Series N140 Pota-Pox Plus
  - i) Dry Film Thickness: 6.0 to 8.0 mils DFT
- f. Total Dry Film Thickness: 14.5-19.5 mils DFT

C. GALVANIZED STEEL - PIPE, AND MISCELLANEOUS FABRICATIONS:

1. Exterior:

- a. Surface Preparation: SSPC-SP1 Solvent Cleaning and SSPC-SP7 Brush-Off-Blast Cleaning to achieve a uniform 1.0-1.5 mil profile.
- b. Spot Prime Coat: Series 90G-1K97TnemeZinc(galvi touch-up)
  - i) Dry Film Thickness: 2.5 to 3.5 mils
- c. Full Prime Coat: Series N69 Hi-Build Epoxoline
  - i) Dry Film Thickness: 3.0 to 4.0 mils
- d. Full Finish Coat: Series 73 Endura-shield

- i) Dry Film Thickness: 2.5 to 5.0 mils
- e. Total Dry Film Thickness: 8.0 to 12.5 mils

2. Interior:

- a. Surface Preparation: SSPC-SP1 Solvent Cleaning and SSPC-SP7 Brush-Off-Blast/Abrade surface to achieve a uniform surface profile of 1.0-1.5 mils
- b. Spot Prime Coat: Series 90G-1K97 TnemeZinc(galvi touch-up)
  - i) Dry Film Thickness: 2.5 to 3.5 mils
- c. Full Prime Coat: Series N69-color Hi-Build Epoxoline II
  - i) Dry Film Thickness: 3.0 to 4.0 mils
- d. Finish Coat: Series N69-color Hi-Build Epoxoline II
  - i) Dry Film Thickness: 3.0 to 4.0 mils
- e. Total Dry Film Thickness: 8.5 to 11.5 mils

D. CONCRETE: (cast-in-place and/or precast concrete surfaces)

1. Exterior - Non-Immersion (above grade) Concrete Stain:

- a. Surface Preparation: Surface shall be clean and dry.
- b. First Coat: Series 617 Conformal Stain WB (color)
  - i) Dry Film Thickness: (100 to 150 sq. ft. per gallon)
- c. Second Coat: Same as first

2. Exterior – Below Grade:

- a. Surface Preparation: Surface shall be clean and dry
- b. First Coat: Series 46-465 H.B. Tnemecol
  - i) Dry Film Thickness: 8.0 to 12.0 mils.
- c. Second Coat: Same as first.
- d. Total Dry Film Thickness: 16.0 to 24.0 mils

3. Immersion; Non-Potable: ( pH range between 3.0-10.0)

- a. Surface Preparation: Abrasive Cleaning per SSPC SP#13 (Reference ICRI CSP 5-6)
- b. Parge Coat: Series 218 MortarClad at a minimum 1/16” to a maximum 1/4”.
- c. Finish Coat: Series 436 Perma-Shield FR
  - i) Dry Film Thickness: 70.0 to 80.0 mils DFT
- d. Total Dry Film Thickness: 70.0 to 80.0 mils DFT

4. Interior - Non-Immersion

- a. Surface Preparation: Surface shall be clean and dry
- b. First Coat: Series N69-color Hi-Build Epoxoline II
  - i) Dry Film Thickness: 3.0 to 5.0 mils DFT
- c. Second Coat: Series N69-color Hi-Build Epoxoline II
  - i) Dry Film Thickness: 4.0 to 6.0 mils DFT
- d. Total Dry Film Thickness: 7.0 to 11.0 mils DFT

**Note:** *Optional System for concrete walls in pipe gallery where a non-painted finish is desired.*

- a. *Apply one coat of Series 633 Chemprobe Prime A Pell H2O (a clear water repellent and dustproof)*

5. Interior - Immersion; Potable

- |                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| a. Surface Preparation:      | Abrasive Cleaning per SSPC SP#13 (Reference ICRI CSP 5-6)   |
| b. Parge Coat:               | Series 218 MortarClad at a minimum 1/16" to a maximum 1/4". |
| c. Finish Coat:              | FC22 Epoxoline                                              |
| i) Dry Film Thickness:       | 25.0 to 30.0 mils DFT                                       |
| d. Total Dry Film Thickness: | 25.0 to 30.0 mils DFT                                       |

6. Immersion; Non-Potable- Concrete Confined Tanks- Head Space and Top Wall Sections:

**Note:** *For exposures to hydrogen sulfide, sulfuric acid and industrial waste condensates.*

**Note to Engineer:** Contact your Tnemec representative for specific recommendations.

E. CONCRETE FLOORS & WALLS: (Secondary Containment Area)

**Note:** *Chemical resistant coating systems, for Chemical Mixing and Storage areas. Concrete shall be fully cured; 28 days. Check moisture content per Tnemec data sheet.*

1. Reinforced Pigmented Finish: Walls, Floors and Pads

- |                                      |                                                                                                |
|--------------------------------------|------------------------------------------------------------------------------------------------|
| a. Surface Preparation:              | Abrasive blast cleaning per SSPC SP #13 (Reference ICRI CSP 3-5)                               |
| b. Parge Coat for Vertical Surfaces: | Dampen wall, then apply 218 MortarClad, filling all voids in the concrete, trowel application. |
| i) Dry Film Thickness:               | 1/16 " minimum to a 1/4" inch maximum                                                          |
| c. Prime Coat:                       | Series 237 SC Power Tread                                                                      |
| i) Dry Film Thickness:               | 6.0-10.0 mils DFT                                                                              |
| d. Slurry Coat:                      | Series 237/238 SC Power Tread                                                                  |
| i) Dry Film Thickness:               | 60.0- 80.0 mils DFT                                                                            |
| e. Reinforcement:                    | Series 237/238 SC Fiberglass Mat                                                               |
| f. Saturant Coat:                    | Series 237/238 SC Powertread                                                                   |
| i) Dry Film Thickness:               | 8.0-12.0 mils DFT                                                                              |
| g. Finish Coat:                      | Series 282 Gray Tneme-Glaze                                                                    |
| i) Dry Film Thickness:               | 6.0 to 8.0 mils DFT                                                                            |
| h. Total Dry Film Thickness:         | 80.0-110.0 mils DFT                                                                            |

2. Non-Reinforced Pigmented Finish: Floors and Pads

- |                              |                                                                |
|------------------------------|----------------------------------------------------------------|
| a. Surface Preparation:      | Abrasive blast cleaning per SSPC SP #13 (Reference ICRI CSP 3) |
| b. Primer:                   | Tnemec 201 Epoxoprime                                          |
| i) Dry Film Thickness:       | 4.0-6.0 mils DFT                                               |
| c. Second Coat:              | Series 282 Beige Tneme-Glaze                                   |
| i) Dry Film Thickness:       | 8.0-10.0 mils DFT                                              |
| d. Finish Coat:              | Series 282 Gray Tneme-Glaze                                    |
| i) Dry Film Thickness:       | 8.0-10.0 mils DFT                                              |
| e. Total Dry Film Thickness: | 20.0-26.0 mils DFT                                             |

## F. CONCRETE MASONRY UNIT (CMU)

### 1. Exterior - Exposed:

- |                              |                                                |
|------------------------------|------------------------------------------------|
| a. Surface Preparation:      | Surface shall be clean and dry                 |
| b. First Coat:               | Series 156 Enviro-crete                        |
| i) Dry Film Thickness:       | 6.0 to 8.0 mils (80 to 100 square feet/gallon) |
| c. Second Coat:              | Series 156 Enviro-crete                        |
| i) Dry Film Thickness:       | 6.0 to 8.0 mils (80 to 100 square feet/gallon) |
| d. Total Dry Film Thickness: | 12.0-16.0 mils                                 |

### 2. Interior: Concrete Masonry Walls

- |                              |                                         |
|------------------------------|-----------------------------------------|
| a. Surface Preparation:      | Surface shall be clean and dry          |
| b. First Coat:               | Series 130 Envirofill                   |
| i) Dry Film Thickness:       | Applied at 80 to 100 square feet/gallon |
| c. Second Coat:              | Series N69-color Hi-Build Epoxoline II  |
| i) Dry Film Thickness:       | 4.0 to 6.0 mils                         |
| d. Third Coat:               | Series N69-color Hi-Build Epoxoline II  |
| i) Dry Film Thickness:       | 4.0 to 6.0 mils                         |
| e. Total Dry Film Thickness: | 8.0 to 12.0 mils above block filler.    |

## G. INTERIOR WALL AND CEILING SURFACES:

### 1. Cement Plaster and Gypsum Wallboard:

- |                              |                                |
|------------------------------|--------------------------------|
| a. Surface Preparation:      | Surface shall be clean and dry |
| b. First Coat:               | Series 151-1051 Elasto-Grip FC |
| i) Dry Film Thickness:       | 1.0 to 1.5 mils                |
| c. Second Coat:              | Series 113 HB Tneme-Tufcoat    |
| i) Dry Film Thickness:       | 3.0 to 5.0 mils                |
| d. Finish Coat:              | Series 113 HB Tneme-Tufcoat    |
| i) Dry Film Thickness:       | 3.0 to 5.0 mils                |
| e. Total Dry Film Thickness: | 7.0 to 11.5 mils               |

## H. WOOD:

### 1. Interior or Exterior:

- |                              |                                |
|------------------------------|--------------------------------|
| a. Surface Preparation:      | Surface shall be clean and dry |
| b. First Coat:               | Series 151 Elasto-Grip         |
| i) Dry Film Thickness:       | 1.0 to 1.5 mils                |
| c. Second Coat:              | Series 1029 Tufcryn            |
| i) Dry Film Thickness:       | 2.0 to 3.0 mils                |
| d. Third Coat:               | Series 1029 Tufcryn            |
| i) Dry Film Thickness:       | 2.0 to 3.0 mils                |
| e. Total Dry Film Thickness: | 4.0 to 7.5 mils                |

## I. PVC PIPE:

### 1. Interior:

- a. Surface Preparation: Surface shall be clean and dry; scarify surface uniformly.
- b. First Coat: Series N69-color Hi-Build Epoxoline II
  - i) Dry Film Thickness: 2.0 to 3.0 mils
- c. Second Coat: Series N69-color Hi-Build Epoxoline II
  - i) Dry Film Thickness: 2.0 to 3.0 mils
- d. Total Dry Film Thickness: 4.0 to 6.0 mils

J. INSULATED PIPE:

1. Interior:

- a. Surface Preparation: Surface shall be clean and dry.
- b. Prime Coat: Series 151-1051 Elasto-Grip
  - i) Dry Film Thickness: 1.0 to 1.5 mils
- c. Second Coat: Series 6-Color Tneme-Cryl
  - i) Dry Film Thickness: 2.0 to 3.0 mils
- d. Finish Coat: Series 6-Color Tneme-Cryl
  - i) Dry Film Thickness: 2.0 to 3.0 mils
- e. Total Dry Film Thickness: 5.0 to 7.5 mils

3.11 SCHEDULE OF COLOR SYSTEM MATERIAL IDENTIFICATION

- A. Colors as follows have been used successfully in water and wastewater plants for identification of various materials contained in tanks and pipes. These colors are in compliance with Recommended Standards for Water Works, published by Great Lakes-Upper Mississippi River of State Public Health and Environmental Managers.

<b>Water</b>	<b>Generic Color</b>	<b>Color Identification</b>
Raw Water	olive green	EN07 Clover
Settled or Clarified Water	Aqua	GB36 Aqua Sky
Finished or Potable Water	dark blue	SC06 Safety Blue
<b>WASTEWATER</b>		
Sewage Plant Effluent	clay*	EN13 Terra Cotta
Backwash Waste	light brown	YB31 Twine
Sludge	dark brown	EN05 Weathered Bark
Sewer (Sanitary or Other)	dark gray	GR28 Fossil
<b>CHEMICAL</b>		
Alum or Primary Coagulant	Orange	SC03 Safety Orange
Ammonia	White	WH01 White
Carbon Slurry	Black	IN06 Black
Caustic	yellow with green band	SC01 Safety Yellow with SC07 Safety Green band
Chlorine (Gas and Solution)	Yellow	SC01 Safety Yellow
<b>Water</b>		
Fluoride	light blue with red band	GB04 Fountainbleu with SC09 Safety Red band
Lime Slurry	light green	PA30 Daiquiri Ice
Ozone	yellow with orange band	SC01 Safety Yellow with SC03 Safety Orange band
Phosphate Compounds	light green with red	PA30 Daiquiri Ice with

	band	SC09	Safety Red band
Polymers or Coagulant Aids	orange with green bands	SC03 SC07	Safety Orange with Safety Green band
Potassium Permanganate	Violet	SC08	Safety Purple
Soda Ash	light green with orange band	PA30 SC03	Daiquiri Ice with Safety Orange band
Sulfuric Acid	yellow with red band	SC01 SC09	Safety Yellow with Safety Red band
Sulfur Dioxide	light green with yellow band	PA30 SC01	Daiquiri Ice with Safety Yellow band
OTHER			
Compressed Air	dark green	EN09	Balsam
Gas	Red	SC05	Monterrey Tile
Other Lines	light gray	IN01	Light Gray
Hoists/Trolleys	yellow*	SC01	Safety Yellow
Fire Protection	red*	SC09	Safety Red

\*These generic colors are not part of Recommended Standards for Water Works.

Specifier Notes: This product selection guide is written according to the Construction Specifications Institute (CSI) Format, including *Master Format*, *Section Format*, and *Page Format*, contained in the *CSI Manual of Practice*.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the drawings.

Delete all "Specifier Notes" when editing this section.

*Specifier Notes: This section covers Tnemec high-performance coating systems for Commercial facilities.*

This schedule is only a guide listing various coating system options for various environments and should not be used as a final specification. Additional coating systems not listed in this schedule are available, and may be more appropriate for your coating application. To finalize this coatings schedule, please contact [www.rightergroup.com](http://www.rightergroup.com)

Many coatings specified contain organic solvents. Consult Righter Group for compliance to local VOC regulations.

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