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 1 Omnithane
      i. Dry Film Thickness: 2.5-3.5 mils DFT
   c. Full Field Prime Coat: Series V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 4.0-6.0 mils DFT
   d. Finish Coat: Series 1095-color Endura-Shield
      i. Dry Film Thickness: 2.5-5.0 mils DFT
   e. Total Dry Film Thickness: 9.0-14.5 mils DFT
2. Interior Steel - Non-Immersion (moderate chemical and dry exposure) for Structural Steel, pumps, values, 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 1 Omnithane
      i. Dry Film Thickness: 2.5-3.5 mils DFT
   c. Full Field Prime Coat: Series V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 4.0-6.0 mils DFT
   d. Finish Coat: Series V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 4.0-6.0 mils DFT
   e. Total Dry Film Thickness: 10.5-15.5 mils DFT

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

3. Interior Steel - Non-Immersion:
   a. 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 V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 4.0-6.0 mils DFT
   d. Finish Coat: Series V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 4.0-6.0 mils DFT
   e. Total Dry Film Thickness: 10.5-15.0 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 V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0-6.0 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. Finish Coat: Series G435 Perma-Glaze
        i. Dry Film Thickness: 30.0-40.0 mils DFT
    e. Total Dry Film Thickness: 34.0-46.0 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 H_2O Hydro-Zinc
        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 damaged primer or welded connections. Spot prime with shop primer.
    d. Stripe-Coat: Series 22 Epoxoline
    e. Full Field Finish Coat: Series 22 or FC22 Epoxoline
        i. Dry Film Thickness: 25.0-30.0 mils DFT
    f. Total Dry Film Thickness: 27.5-33.5 mils DFT

B. MILL COATED DUCTILE IRON PIPE:

1. Exterior or Interior - Non-Immersion:
    a. Shop Surface Preparation: NAPF 500-03-04 Abrasive Blast 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 damaged primer or welded connections. Spot prime with shop primer.
    d. Full Field Finish Coat: Series V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0-6.0 mils DFT
    e. Exterior Finish Coat: Series 1095 Endura-Shield
        i. Dry Film Thickness: 2.5-5.0 mils DFT
    f. Interior Finish Coat: Series V69F Hi-Build Epoxoline II
        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 Finish Coat: Series 22 or FC 22 Epoxoline
        i. Dry Film Thickness: 20.0-25.0 mils DFT
    e. Exterior Finish Coat: Series 22 or FC 22 Epoxoline
        i. Dry Film Thickness: 20.0-25.0 mils DFT
    f. Total Dry Film Thickness: 22.5-28.5 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 Finish Coat: Series 22 or FC 22 Epoxoline
        i. Dry Film Thickness: 25.0-30.0 mils DFT
    e. Total Dry Film Thickness: 27.5-33.5 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-1K97 Tneme-Zinc (galvi touch-up)
        i. Dry Film Thickness: 2.5-3.5 mils
    c. Full Prime Coat: Series V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0-6.0 mils
    d. Full Finish Coat: Series 1095 Endura-Shield
        i. Dry Film Thickness: 2.5-5.0 mils
    e. Total Dry Film Thickness: 9.0-14.5 mils
2. Interior:
    a. Surface Preparation: SSPC-SP1 Solvent Cleaning &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 Tneme-Zinc (galvi touch-up)
        i. Dry Film Thickness: 2.5-3.5 mils
    c. Full Prime Coat Series V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0-6.0 mils
    d. Finish Coat: Series V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0-6.0 mils
    e. Total Dry Film Thickness: 10.5-15.5 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: 8.0-12.0 mils.
    c. Second Coat: Same as first.
    d. Total Dry Film Thickness: 16.0-24.0 mils
3. Immersion; Non-Potable: (pH range between 3.0-10.0)
    a. Surface Preparation: Abrasive Cleaning per SSPC SP#13 (RE: ICRI CSP 5-6)
    b. Parge Coat: Series 218 MortarClad @ 1/16” min - 1/4" max, or, Series 217 for thicknesses greater than ¼”.
    c. Finish Coat: Series G435 Perma-Glaze
        i. Dry Film Thickness: 80.0 mils DFT
    d. Total Dry Film Thickness: 80.0 mils DFT

4. Interior - Non-Immersion
    a. Surface Preparation: Surface shall be clean and dry
    b. First Coat: Series V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0-6.0 mils DFT
    c. Second Coat: Series V69F Hi-Build Epoxoline II
        i. Dry Film Thickness: 4.0 to 6.0 mils DFT
    d. Total Dry Film Thickness: 8.0 to12.0 mils DFT

Note: *Optional System for concrete walls in pipe gallery where a non-painted finish is desired. - Apply one coat of Series 633 Chemprobe Prime-A-Pell H_2O (a clear water repellent and dustproofer)*

5. Interior - Immersion; Potable
    a. Surface Preparation: Abrasive Cleaning per SSPC SP#13 (RE: ICRI CSP 5-6)
    b. Parge Coat: Series 218 MortarClad @ 1/16" min- 1/4" max
    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, apply 218-1000 MortarClad, filling all voids in the concrete, trowel application.
        i. Dry Film Thickness: 1/16" min - 1/4" max
    c. Prime Coat: Series 237SC ChemBloc
        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 Tneme-Glaze (Gray)
        i. Dry Film Thickness: 6.0- 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(Ref. ICRI CSP 3)
    b. Primer: Tnemec 201 Epoxoprime
        i. Dry Film Thickness: 4.0-6.0 mils DFT
    c. Second Coat: Series 282 Tneme-Glaze (Beige)
        i. Dry Film Thickness: 8.0-10.0 mils DFT
    d. Finish Coat: Series 282 Tneme-Glaze (Gray)
        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 V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 4.0 to 6.0 mils
   d. Third Coat: Series V69F 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 1026 Enduratone
      i. Dry Film Thickness: 2.5-3.0 mils
   d. Finish Coat: Series 1026 Enduratone
      i. Dry Film Thickness: 2.5-3.0 mils
   e. Total Dry Film Thickness: 6.0-7.5 mils

H. WOOD:

1. Interior or Exterior:
   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 1026 Enduratone
      i. Dry Film Thickness: 2.0 to 3.0 mils
   d. Third Coat: Series 1026 Enduratone
      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 V69F Hi-Build Epoxoline II
      i. Dry Film Thickness: 2.0 to 3.0 mils
   c. Second Coat: Series V69F 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 FC
      i. Dry Film Thickness: 1.0 to1.5 mils
   c. Second Coat: Series 1029 Enduratone
      i. Dry Film Thickness: 2.0 to 3.0 mils
   d. Finish Coat: Series 1029 Enduratone
      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.

Water Lines	**Generic Color**	**Color Identification**
Raw Water	Olive Green	110GN Clover
Settled or Clarified Water	Aqua	10GN Aqua Sky
Finished or Potable Water	Dark Blue	11SF Safety Blue
Wastewater		
Sewage Plant Effluent	Clay*	07RD Terra Cotta
Backwash Waste	Light Brown	68BR Twine
Sludge	Dark Brown	84BR Weathered Bark
Sewer (Sanitary or Other)	Dark Gray	46GR Sinker
Chemical		
Alum or Primary Coagulant	Orange	04SF Safety Orange
Ammonia	White	00WH White
Carbon Slurry	Black	35GR Black
Caustic	Yellow with Green Band	02SF Safety Yellow with 09SF Safety Green Band
Chlorine (Gas and Solution)	Yellow	02SF Safety Yellow
Fluoride	Light Blue with Red Band	25BL Fountainbleu with 06SF Safety Red Band
Lime Slurry	Light Green	36GN Green Ice
Ozone	Yellow with Orange Band	02SF Safety Yellow with 04SF Safety Orange Band
Phosphate Compounds	Light Green with Red Band	36GN Green Ice with Safety 06SF Red Band
Polymers or Coagulant Aids	Orange with Green Bands	04SF Safety Orange with 09SF Safety Green Band
Potassium Permanganate	Violet	14SF Safety Purple
Soda Ash	Light Green with Orange Band	36GN Green Ice with Safety 04SF Orange Band
Sulfuric Acid	Yellow with Red Band	02SF Safety Yellow with 06SF Safety Red Band
Sulfur Dioxide	Light Green with Yellow Band	36GN Green Ice with Safety 02SF Yellow Band

Other	Generic Color	Color Identification	
Compressed Air	Dark Green	91GN	Balsam
Gas	Red	28RD	Monterrey Tile
Other Lines	Light Gray	32GR	Light Gray
Hoists/Trolleys	Yellow*	02SF	Safety Yellow
Fire Protection	Red*	06SF	Safety Red

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

Temporary Protection for interior flooring subjected to medium traffic (lighter scissor lifts and roller staging) and vertical protection. Potential surfaces could include: stone, marble, wall coverings, glass, curtain wall, paint, fabrics, and other finished materials. Shall meet LEED v4 and be FR Rated per NFPA- 701 and ASTM E648.

1. ENTRY POINT PROPLEXFR 700, lightweight 3.5 lb. semi-ridged Polypropylene sheets for interior use, 4 mm board at 700 grams/m2. Material shall be waterproof, non-warping when wet, light weight, and may be reused multiple times before recycling.

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

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

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