

SECTION 099020
PAINTING (S-56)

1. DESCRIPTION

This specification shall govern for all work necessary to provide all painting required to complete the project.

2. INTENT

All ferrous metal or unfinished material furnished on this project shall be furnished with a protective coating, but stainless steel, aluminum, bronze, copper, lead, and galvanized surfaces are not to be painted. Any factory painted item that is damaged or shows any sign of corrosion prior to the date of substantial completion shall be repainted by the Contractor. Concrete or concrete block is to be painted only when shown on the drawings to be painted.

COLORS

All colors shall be selected by the Engineer and/or Owner. The Contractor shall prepare samples of colors for approval by the Engineer and/or Owner.

SAMPLES

The Contractor shall submit for approval samples of paint materials proposed for use, in three displays of each kind of color of paint to be applied. The Contractor shall make panels used for displays, representative of respective types of surfaces to which several kinds and colors are to be applied in actual work. The Contractor shall not order paint materials until color selections have been made and samples approved.

3. PREPARATION OF SURFACES

3.1 General: All surfaces shall be clean when paint is applied.

3.2 Concrete and Masonry: The Contractor shall clean all concrete surfaces with mechanical abrasion (brushing) and water blast. The last step in the cleaning of surfaces other than sanitary sewer wet wells shall be to wash the surface to be painted with a 20% solution of muriatic acid and then rinse with potable water. In cleaning sanitary wet wells, all corroded concrete shall be removed as indicated above and the surface shall be washed with a solution of potable water and sodium hydroxide and then rinsed with potable water. The surface shall be thoroughly dry when paint is applied.

3.3 Metal:

- a. General: All metal surface to be painted shall be cleaned by sandblasting, except items that are shop coated. Cleaning shall be to "Near White Metal" SP-10 or NACE #2, or "Commercial Grade" SSPC-6 or NACE #3. One of these two methods will be specified where blast cleaning is required. NOTE: All submerged surfaces will require a "Near White Metal" (SP-10 or NACE #2 blast), without exception.
- b. "Near White Metal": Sandblast cleaning SP-10 or NACE #2. Definition and procedure as follows: "Near White Metal" is a method of preparing the metal surfaces for the application of

protective coatings by removing mill scale, rust, oil paint, and any foreign matter by propelling sand through a nozzle with compressed air. This is defined as a surface, gray white in appearance, being almost a completely uniform metallic color, with very light shadows allowed over less than 10% of the surface area.

Procedure:

- (1) Before blasting, grind smooth any rough welds and sharp edges.
- (2) Remove heavy deposits of oil and grease by detergent cleaning using one pound Sodium Meta Silicate per five gallons of water.
- (3) The sand used shall be 16-35 mesh, or 20-60 (unless otherwise specified) sharp angular grained silica sand that is fresh water washed, dried, properly graded and delivered to the job site in moisture proof bags (bulk sand of equal quality and size is acceptable). Sand shall not be re-used.
- (4) Compressed air shall be delivered at a minimum nozzle pressure of 90 p.s.i. not to exceed 110 p.s.i. This shall be free of detrimental amounts of condensed water and oil.
- (5) All blast products shall be swept or blown from the surface before priming commences.
- (6) Blast cleaning will not be conducted on surfaces that may become wet after blasting and before priming is complete, or when surfaces are less than 5E above dew point, or when relative humidity is above 85%.
- (7) The blasted surface shall be primed within 8 hours.

c. "Commercial" Blast Cleaning (SP-6 of NACE #3) Definition and Procedure: Commercial blast cleaning is a method of preparing metal surfaces for painting by removing mill scale, rust, rust scale, paint or foreign matter by the use of abrasive propelled through nozzles or by centrifugal wheels. Heavy deposits of grease or oils shall be removed by No. 1 "Solvent Cleaning" prior to blasting. "Commercial" blast cleaning entails the removal of practically all rust, mill scale and other detrimental matter from the surface. The surface will not necessarily be uniform in color, nor will all surfaces uniformly clean since the original condition of the surface will affect the final result. (If surface, prior to cleaning, is in such bad condition that the cleaning, when done according to this specification, results in a surface unsatisfactory to the Owner or suitable for very severe service, the No. 10 Blast Cleaning to "Near White Metal" shall be specified.) Less than 30% light shadow shall be visible.

Procedure:

- (1) Remove heavy deposits of grease or oil by detergent cleaning.
- (2) The sand shall be 20-40 mesh, unless otherwise specified, fresh water washed, dried, properly graded and delivered to the job site in vapor proof bags, or bulk. Sand shall not be re-used.
- (3) Compressed air shall be delivered at a minimum nozzle pressure of 90E p.s.i., not to exceed 100 p.s.i. This shall be free of condensed water and oil (use moisture traps).
- (4) Blow or sweep off the excess blast products from the surface.
- (5) Prime the blasted surface within 8 hours.

- (6) Blasting shall not be conducted when relative humidity is in excess of 85% or surfaces are less than 5E above the dew point, unless approved by the Engineer.
 - d. Removal of Oil and Grease: Remove oil and grease with approved solvents such as Naptha, or by steam combined with approved detergent. USE OF GASOLINE OR KEROSENE NOT PERMITTED.
 - e. Scraping, Grinding and Chipping: Scrapers or other suitable grinding and chipping tools may be used for removal of existing paint coating prior to repainting, or for cleaning before application of secondary coats only when approved by the Engineer.
 - f. Sandblasting: Clean such surfaces by "Near White" or "Commercial" sandblasting and leave clean, dry, and ready to receive prime coat. River sand must be graded and washed to insure removal of clayey material. Remove all dust and sand from surfaces before painting. Take care to remove all sand and grit around and between joints of connecting members. Schedule operations to avoid settling of dust or grit on freshly painted surfaces and adequately protect machinery or other equipment in vicinity of sandblasting work.
4. STORING AND MIXING OF PAINT: The Contractor shall use one convenient location for storing and mixing of paint materials, and keep an approved type fire extinguisher available in this area. The Contractor shall protect areas where paint is stored or painting is done and he shall remove all oily rags and waste from building at close of each day.
5. WEATHER AND SITE CONDITIONS:
- 5.1 Temperature: Painting shall not be accomplished when either the surface or ambient temperatures are less than 50E or when temperature drop of 20EF, or below 50E Fahrenheit, is forecast.
- NOTE:** Material shall be stored in area where the extreme cold or heat will not greatly affect viscosity. Coatings apply much better when product temperature is held within 60E - 90E F range (77E F is optimum).
- 5.2 Humidity: Painting shall not be accomplished during misty or rainy weather, or on surfaces that have any frost or moisture. Painting shall not be permitted at temperatures less than 5EF above the dew point.
 - 5.3 Wind and Dust: Painting shall not be accomplished in dusty rooms or on the exterior during excessive wind. The Engineer shall be the sole judge as to what constitutes excessive wind.
6. APPLICATION PROCEDURES:
- 6.1 General: Paint shall be applied by skilled workmen. Paint may be applied with brush or spray equipment. Paint shall be applied in even and thorough coats, without runs, sags or other blemishes. Contractor shall properly sand paint surfaces between coats of enamel, paint or shellac when applied to any surface other than masonry. Apply paints in accordance with manufacturer's

recommendations. Do not apply finish field painting to machinery, equipment, or piping until operational testing has been completed.

6.2 Driving Time: Allow thorough drying time of each coat before succeeding coat is applied, except when manufacturer recommends otherwise, or as specified herein.

6.3 Coverage: Shall be as recommended by manufacturer.

6.4 Delivery of Paint: Contractor shall deliver paint to the site in original, unbroken, sealed containers, with manufacturer's label attached.

6.5 Thinners and Solvents: Contractor shall use only those thinners and solvents specified in paint formulas of paint being used and mix in proportions as recommended by paint manufacturer.

6.6 Brush Application: Contractor shall apply paint in uniform thickness consistent with specified coverage and with sufficient cross brushing to insure filling of surface irregularities. He shall exercise particular care in painting around rivet heads, bolt heads and nuts, in corners, restricted spaces, and on irregular concrete surfaces.

6.7 Spray Application: Contractor shall apply paint with adjustable air gun equipped with suitable water trap to remove moisture from compressed air, and with paint pot having hand or air driven agitator. Application of paint by suitable airless spray equipment is acceptable. Paint shall be applied with the width of spray not less than 6 inches nor more than 18 inches, and with suitable pressure for particular type of paint being used. Contractor shall make frequent checks to insure correct spreading rate and coating, and apply without sags, runs or "orange peel" effect. Correct all such imperfection. The Contractor shall take special care to cover edges, corners, and rivet head without bridging over of paint film.

6.8 Application of Protective Coating: When applying coats designed to prevent corrosion due to liquids and gases, the coating must be complete and absolutely free of the slightest pinhole, air pocket or other defect which would allow the entrance of either liquid or gas.

6.9 Painting Shop Coated Metal Surfaces:

- a. Prior to Installation: After delivery to site of work, and prior to installation, keep all shop coated metal work clean and free from corrosion. When directed, clean and re-touch damaged areas with additional primer.
- b. After Installation: After erection or installation of shop coated metal work, clean, and re-touch all rust spots, all places where paint has been rubbed or scraped off, and all field rivet boat head nuts. After previously applied paint has hardened, and when surfaces to receive succeeding coats of paint have been perfectly cleaned and dried, apply paint as set out elsewhere in these specifications. Allow interval of not less than 48 hours, or as recommended by manufacturer, between coats, and if surface is to be submerged in water, allow 5 days or more for hardening of final coat before

placing in water.

- c. Machinery and Electrical Equipment: After installation of machinery and electrical equipment, check base coats carefully and retouch all damaged surfaces. Do not paint nameplates, serial number bases, chrome or bronze trim, or any rotating parts. Clean off any excess paint that impairs convenient removal of covers or gauges, instrumentation or other equipment fitted with doors or covers.
- d. Bolted and Imbedded Surfaces: All surfaces to be blotted together, to concrete or to be imbedded in concrete or grouted, to have prime and complete finish coats applied and dried before erecting in place.

6.10 CLEANING: Upon completion of painting operations, the Contractor shall clean off all paint spots, oil, and stain from all surfaces and leave entire project in perfect condition as far as painting work is concerned. Remove from premises all containers and debris resulting from painting operations.

7. PAINTING EQUIPMENT, MACHINERY AND METAL WORK

7.1 INTERIOR METAL DOORS, FRAMES, AND WINDOWS, AND OTHER MISCELLANEOUS ARCHITECTURAL METAL WORK:

Prime Coat: (Surface Prep - SP-6, or PT-4 "Hot Phosphate Treat")

- a. 1 coat - Briners #4805 Versatile Red Primer - Minimum 2.5 D.M.T.*, or
- b. 1 coat - Koppers 654 Epoxy Primer - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Inhibitive Primer #97-48/98 - Minimum 2.5 D.M.T., or
- d. an approved equal.

*Dry Mils Thick

Intermediate Coat

- a. 1 coat - Briners #4800 Series Polyamide-Epoxy (Versatile) - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide-Epoxy Finish- Minimum 2 D.M.T., or
- d. an approved equal.

Top Coat:

- a. 1 coat - Briners #4800 Series Polyamide-Epoxy (Versatile) - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 2 D.M.T., or
- d. an approved equal.

7.2 EXTERIOR METAL DOORS, FRAMES, AND WINDOWS, AND OTHER

MISCELLANEOUS ARCHITECTURAL METAL WORK:

Prime Coat: (Surface Prep-SP-6)

- a. 1 coat - Briners #4805 Versatile Red Primer - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers 654 Epoxy Primer - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Inhibitive Primer #97-48/98 - Minimum 2.5 D.M.T., or
- d. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4817 Versatile Tan Primer - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2.5 D.M.T. or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 2.5 D.M.T., or
- d. an approved equal.

Top Coat:

- a. 1 coat - Briners ACRA-CLAD (Acrylic Urethane) - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers Polyurethane - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Pitthane (Polyurethane) - Minimum 2.5 D.M.T. or
- d. an approved equal.

7.3 INTERIOR-STRUCTURAL STEEL, HANDRAILS, WALKWAYS, AND OTHER MISCELLANEOUS METAL WORK: (Sandblast "Near-White Metal", SP-10 or NACE #2)

Prime Coat:

- a. 1 coat - Briners #4805 Versatile Red Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers #654 Epoxy Primer - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Primer #97-48/49 - Minimum 2.5 D.M.T., or
- d. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4817 Versatile Tan Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers 200 H.B. Epoxy - Minimum 3 D.M.T., or
- c. 1 coat - Pittsburgh Light Gray Aquapon #97-3/98, Minimum 3 D.M.T., or
- d. an approved equal.

Top Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy Finish - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 3 D.M.T. or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish #97-51/51 - Minimum 3 D.M.T., or
- d. an approved equal.

7.4 EXTERIOR-STRUCTURAL STEEL, HANDRAILS, WALKWAYS, AND OTHER MISCELLANEOUS METAL WORK: (Sandblast "Near White Metal", SP-10 or NACE #2)

Prime Coat:

- a. 1 coat - Briners #4805 Versatile Red Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers #654 Epoxy Primer - 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Inhibitive Primer #97-48/98 - Minimum 2.5 D.M.T., or
- d. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4817 Versatile Tan Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers 200 H.B. Epoxy - Minimum 3 D.M.T., or
- c. 1 coat - Pittsburgh Light Gray Aquapon #97-3/98 - Minimum 3 D.M.T., or
- d. an approved equal.

Top Coat:

- a. 1 coat - Briners ACRA-CLAD (Acrylic Urethane) - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers Polyurethane - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Pitthane (Polyurethane) - Minimum 2.5 D.M.T., or
- d. an approved equal.

7.5 STRUCTURAL STEEL AND OTHER MISCELLANEOUS METAL SUBMERGED IN WASTEWATER: (Sandblast "Near White Metal", SP-10 NACE #2)

Prime Coat:

- a. 1 coat - Briners U#4817 Versatile Tan Primer - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers 654 Epoxy, Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Green Inhibitive Primer - #97-49/98 - Minimum 2.5 D.M.T., or
- d. an approved equal.

Intermediate Coat: (Shall be applied in not less than four (4) hours and not more than fifteen (15) hours after applying the previous coat.)

- a. 1 coat - Briners #791 Coal Tar Epoxy - Minimum 8 D.M.T., or
- b. 1 coat - Koppers Bitumastic 300-M Coal Tar Epoxy - Minimum 8 D.M.T., or
- c. 1 coat - Pittsburgh Coal Tar Epoxy - Coal Cat #97-640/641 Epoxy-Minimum 8 D.M.T., or
- d. an approved equal.

Top Coat: (Shall be applied in not less than four (4) hours and not more than fifteen (15) hours after applying the previous coat.)

- a. 1 coat - Briners #791 Coal Tar Epoxy - Minimum 8 D.M.T., or
- b. 1 coat - Koppers 300-M Coal Tar Epoxy - Minimum 8 D.M.T., or

- c. 1 coat - Pittsburgh Coal Tar Epoxy - Coal Cat #97-640/641 Epoxy-Minimum 8 D.M.T., or
- d. an approved equal.

7.6 STRUCTURAL STEEL AND OTHER MISCELLANEOUS METAL SUBMERGED IN POTABLE WATER: (Sandblast "Near White Metal", SP-1 or NACE #2)

Prime Coat:

- a. 1 coat - Briners #796 Non-Toxic Primer, 2 - 2.5 D.M.T., or
- b. 1 coat - Koppers #294 Epoxy Primer - Minimum 3 D.M.T., or
- c. Pittsburgh (No system available), or
- d. 1 coat - Tnemec 20-1255 "Beige" Pota-Pox Primer - Minimum 3 D.M.T., or
- e. an approved equal.

Intermediate Coat: (Shall be applied in not less than four (4) hours and not more than fifteen (15) hours after applying the previous coat.)

- a. 1 coat - Briners #797 Super Versatile Non-Toxic White - Minimum 5 D.M.T., or
- b. 1 coat - Koppers 200 H.B. Epoxy - Minimum 6 D.M.T., or
- c. Pittsburgh (No system available), or
- d. 1 coat - Tnemec 20-2000 "White" Pota-Pox - Minimum 4 D.M.T., or
- e. an approved equal.

Top Coat: (Shall be applied in not less than (4) hours and not more than fifteen (15) hours after applying the previous coat.

- a. 1 coat - Briners #797 Super Versatile Non-Toxic White - Minimum 5 D.M.T., or
- b. 1 coat - Koppers 200 H.B. Epoxy - Minimum 6 D.M.T., or
- c. Pittsburgh (No system available), or
- d. 1 coat - Tnemec 20-2000 "White" Pota-Pox - Minimum 4 D.M.T., or
- e. an approved equal.

7.7 INTERIOR - SHOP PAINTED PUMPS, MACHINERY AND MOTORS:

Prime Coat:

- a. 1 coat - Briners #2810 Durapon Red Primer - Minimum 2 D.M.T., or
- b. 1 coat - Koppers 621 Rust Inhibitive Primer - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Multi-Prime #97-684 Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 37K-77 Chem-Prime-Minimum 2 D.M.T., or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #2800 Series Durapon Enamel Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Ponkote 300 Enamel - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy finish - Minimum 2 D.M.T., or

- d. 1 coat - Tnemec Series 2H Hi-Build Tnemec-Glass - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat:

- a. 1 coat - Briners #2800 Series Durapon Enamel Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Ponkote 300 Enamel - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 2H Hi-Build Tnemec-Glass - Minimum 2 D.M.T., or
- e. an approved equal.

7.8 EXTERIOR - SHOP PAINTED PUMPS, MACHINERY, AND MOTORS:

Prime Coat:

- a. 1 coat - Briners #4805 Versatile Red Prime - 2.5 - 3 D.M.T., or
- b. 1 coat - Koppers 654 Epoxy Primer 2.5 - 3 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Inhibitive Primer #97-48/98 2.5 - 3 D.M.T., or
- d. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4817 Versatile Tan Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 3 D.M.T., or
- c. 1 coat - Pittsburgh Polyamide Epoxy Gray High Solids #97-151/159 - Minimum 5 D.M.T., or
- d. an approved equal.

Top Coat:

- a. 1 coat - Briners ACRA-CLAD (Acrylic Urethane) - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers Polyurethane - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Pitthane (Polyurethane) - Minimum 2.5 D.M.T., or
- d. an approved equal.

7.9 ELECTRICAL CONTROL EQUIPMENT:

Prime Coat:

- a. 1 coat - Briners #2810 Durapon Red Primer - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers 621 Rust-Inhibitive Primer - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Inhibitive Primer #97-48/98 - Minimum 2.5 D.M.T., or
- d. 1 coat - Tnemec Series 37-77 Chem-Prime - Minimum 2 D.M.T., or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #2816 Durapon Intermediate Primer (Epoxy) - Minimum 2 D.M.T., or
- b. 1 coat - Koppers 300 Enamel - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 2 D.M.T., or
- d. an approved equal.

Top coat:

- a. 1 coat - Briners #2800 Series Durapon Enamel Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers 300 Enamel - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 2 D.M.T., or
- d. 1 coat - Thnec Series 2H High-Build - Minimum 2 D.M.T., or
- e. an approved equal.

8. PAINTING EXPOSED AND SUBMERGED METAL PIPING

8.1 EXPOSED VALVES, FITTINGS, AND PIPES: (Sandblast "Commercial Grade" SP-6 or NACE #3)

Prime Coat:

- a. 1 coat - Briners #4805 Versatuke Red Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers 654 Primer - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Red Inhibitive Primer #97-48/98 - Minimum 2.5 D.M.T., or
- d. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4817 Versatile Tan Primer - Minimum 3 D.M.T., or
- b. 1 coat - Koppers H.B. Epoxy - Minimum 6 D.M.T., or
- c. 1 coat - Pittsburgh Polyamide Epoxy Gray High Solids #97/151/159 - Minimum 5 D.M.T., or
- d. an approved equal.

Top Coat:

- a. 1 coat - Briners ACRA-CLAD (Acrylic Urethane) - Minimum 2.5 D.M.T., or
- b. 1 coat - Koppers Polyurethane - Minimum 2.5 D.M.T., or
- c. 1 coat - Pittsburgh Pitthane (Polyurethane) - Minimum 2.5 D.M.T., or
- d. an approved equal.

Color Coding: Piping shall be color coded as shown on the drawings. When coding is not shown on the drawings, the following shall apply:

Sludge Line	Brown
Gas Line	Red
Potable Water Line	Blue
Non-Potable	White-stenciled "Unsafe Water"
Chlorine Line	Yellow

Sewage Line	Gray
Compressed Air Line	Green
Heating Water Lines	Blue with 6" red bands
for Digesters or	spaced 30" apart
Building	
*Dry Mills Thick	

8.2 VALVES, FITTINGS, AND PIPES SUBMERGED IN WASTEWATER:
(Sandblast "Near White Metal" SP-10 or NACE #2)

Prime Coat: (Applied at the rate recommended by the manufacturer)

- a. 1 coat - Briners U #4817 Versatile Tan Primer, 2.5 - 3 D.M.T., or
- b. 1 coat - Knoppers 654 Epoxy Prier, 2.5 - 3 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Green Inhibitive Primer #97-49/98, 2.5 - 3 D.M.T., or
- d. an approved equal.

Intermediate Coat: (Shall be applied in not less than four (4) hours and not more than fifteen (15) hours after applying the previous coat.)

- a. 1 coat - Briners #791 Coal Tar Epoxy - Minimum 8 D.M.T., or
- b. 1 coat - Knoppers Bitumastic 300 Coal Tar Epoxy - Minimum 8 D.M.T., or
- c. 1 coat - Pittsburgh Coal Tar Epoxy - Coal Cat #97-640/641 Epoxy - Minimum 8 D.M.T., or
- d. an approved equal.

Top Coat: (Shall be applied not less than four (4) hours and not more than fifteen (15) hours after applying the previous coat.)

- a. 1 coat - Briners #791 Coal Tar Epoxy - Minimum 8 D.M.T., or
- b. 1 coat - Koppers Bitumastic 300 Coal Tar Epoxy - Minimum 8 D.M.T., or
- c. 1 coat - Pittsburgh Coal Tar Epoxy - Coal Cat 640-641 Epoxy - Minimum 8 D.M.T., or
- d. an approved equal.

8.3 VALVES, FITTINGS, AND PIPES SUBMERGED IN POTABLE WATER:
(Sandblast "Near White Metal" SP-10 or NACE #2)

Prime Coat:

- a. 1 coat - Briners #796 Non-Toxic Primer, Minimum D.M.T., or
- b. Koppers - No Primer Required, or
- c. Pittsburgh (No system available), or
- d. 1 coat - Tnemec 20-1255 "Beige" Pota-Pox Primer - Minimum 3 D.M.T., or
- c. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #797 Super Versatile Non-Toxic White - Minimum 4 D.M.T., or
- b. 1 coat - Koppers 200 Epoxy - Minimum 6 D.M.T., or
- c. Pittsburgh (No system available), or
- d. 1 coat - Tnemec 20-1000 "Pota-Pox" - Minimum 4 D.M.T., or
- e. an approved equal.

Top Coat: (Should be applied within 48 hours of Intermediate (Coat))

- a. 1 coat - Briners #797 Super Versatile Non-Toxic White - Minimum 4 D.M.T., or
- b. 1 coat - Koppers 200 HP Epoxy - Minimum 6 D.M.T., or
- c. Pittsburgh (No system available), or
- d. 1 coat - Tnemec 20-2000 "White" Pota-Pox - Minimum 4 D.M.T., or
- e. an approved equal.

9. PAINTING CONCRETE AND MASONRY

9.1 INTERIOR OF CONCRETE WASTEWATER WET WELLS:

Prime Coat: (Applied at the rate recommended by manufacturer)

- a. 1 coat - Briners #791 Coal Tar Epoxy - Minimum 8 D.M.T., or
- b. 1 coat - Koppers Bitumastic 300-M - Minimum 8 D.M.T., or
- c. 1 coat - Pittsburgh Coal Tar Epoxy - Coal Cat #97-640/641 Epoxy - Minimum 8 D.M.T., or
- d. Tnemec - No Prime Coat Required, or
- e. an approved equal.

Top Coat: (Shall be applied in not less than four (4) hours and not more than fifteen (15) hours after applying the previous coat).

- a. 1 coat - Briners #791 Coal Tar Epoxy - Minimum 10 D.M.T., or
- b. 1 coat - Koppers Bitumastic 300-M - Minimum 10 D.M.T., or
- c. 1 coat - Pittsburgh Coal Tar Epoxy - Coal Cat #97-640/641 Epoxy - Minimum 10 D.M.T., or
- d. 1 coat - Tnemec 46H413 Hi-Build Tnemec-Tar - Minimum 18 D.M.T., or
- e. an approved equal.

The interior epoxy coating of concrete wastewater wet wells must be absolutely free of the slightest pinhole, air pocket, and other imperfections which allow entry of corrosive gasses. The Contractor shall provide all equipment, labor, and materials for testing and repair of pinholes and imperfections. Holiday detection shall be done with a D.E. Stearns Model 14/20 holiday detector.

9.2 INTERIOR - CONCRETE AND CONCRETE BLOCK:

Prime Coat: (Applied as necessary to fill surface to the satisfaction of the Engineer)

- a. 1 coat - Briners #4849 Block Sealer, or
- b. 1 coat - Koppers Block Sealer, or
- c. 1 coat - Pittsburgh Polyamide Epoxy Filler #97-685/686, or
- d. 1 coat - Tnemec 54-562 Modified Epoxy Masonry Filler, or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Pitt-Glaze Hi Solids Epoxy - Minimum 2 D.M.T., or

- d. 1 coat - Tnemec Series 66 Hi-Build Epoxoline - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Pitt-Glaze Hi Solids Epoxy - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 66 Hi-Build Epoxoline - Minimum 2 D.M.T., or
- e. an approved equal.

9.3 EXTERIOR - CONCRETE AND CONCRETE BLOCK:

Prime Coat: (Applied as necessary to fill surface to the satisfaction of the Engineer.)

- a. 1 coat - Briners #4849 Block Sealer, or
- b. 1 coat - Koppers Block Sealer, or
- c. 1 coat - Pittsburgh Polyamide Epoxy Block Filler #97-685/686, or
- d. 1 coat - Tnemec Series 54-562 Modified Epoxy Masonry Filler, or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 66 Hi-Build Epoxoline - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 3 D.M.T., or
- b. 1 coat - Kopper Glamorglaze 200 Epoxy - Minimum 3 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon Polyamide Epoxy Finish - Minimum 3 D.M.T., or
- d. 1 coat - Tnemec Series 66 Hi-Build Epoxoline - Minimum 2 D.M.T., or
- e. an approved equal.

10. PAINT WOOD SURFACES

10.1 INTERIOR WOODWORK:

Prime Coat:

- a. 1 coat - Briners #1600 Enamel Undercoater - Minimum 2 D.M.T., or
- b. 1 coat - Koppers 625 Undercoater - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Enamel Undercoat 6-6 - Minimum 2 D.M.T.,

- or
- d. 1 coat - Tnemec Series 36-603 Undercoater - Minimum 2 D.M.T.,
- or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners Duranemal - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Ponkote 300 Enamel - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Speedhide 6-252 Series Enamel - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 2H Hi-Build - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat

- a. 1 coat - Briners Duranemal - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Ponkote 300 Enamel - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Speedhigh 6-252 Series Enamel - Minimum 2 D.M.T., or
- d. 2 coats - Tnemec Series 2 H Hi-Build - Minimum 2 D.M.T., or
- e. an approved equal.

10.2 EXTERIOR WOODWORK:

Prime Coat:

- a. 1 coat - Briners Exterior Wood Primer - Minimum 2 D.M.T., or
- b. 1 coat Koppers 625 Undercoater - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Speedhide 6-809 Exterior Wood Primer (Mildew Resistant) - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 36-603 Undercoater - Minimum 2 D.M.T., or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners Acraflex - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Rustarmor - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Speedhide 6-800 Series or Speedhike 1-900 Series (Mildew Resistant) - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 23 Enduratone - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat

- a. 1 coat - Briners Acraflex - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Rustarmor - Minimum 2 D.M.t., or
- c. 1 coat - Pittsburgh Speedhike 6-800 Series or Speedhike N-900 Series (Mildew Resistant) - Minimum 2 D.M.T., or
- d. 2 coats - Tnemec Series 23 Enduratone - Minimum 2 D.M.T., or
- e. an approved equal.

11. PAINING GYPSUM BOARD

11.1 GENERAL INTERIOR - GYPSUM BOARD

Prime Coat:

- a. 1 coat - Briners #3400 Acra-Kote - Minimum 2 D.M.T., or

- b. 1 coat - Koppers 600 Acrylic Emulsion - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Speedhike 6-2 Latex Sealer - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec 51-792 PVA Sealer - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat:

- a. 1 coat - Briners #3400 Acra-Kote - Minimum 2 D.M.T., or
- b. 1 coat - Koppers 600 Acrylic Emulsion - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Speedhike 6-2 Latex Sealer - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 6 Tnemec Cryl - Minimum 2 D.M.T., or
- e. an approved equal.

11.2 WASHROOM, SHOWER ROOM, LOCKER ROOM INTERIOR GYPSUM BOARD:

Prime Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze Wallboard Primer - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Multiprime 97-684 - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 51-792 PVA Sealer - Minimum 21 D.M.T., or
- e. an approved equal.

Intermediate Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon #97-3/98 - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 66 Hi-Build - Minimum 2 D.M.T., or
- e. an approved equal.

Top Coat:

- a. 1 coat - Briners #4800 Series Versatile Polyamide Epoxy - Minimum 2 D.M.T., or
- b. 1 coat - Koppers Glamorglaze 200 Epoxy - Minimum 2 D.M.T., or
- c. 1 coat - Pittsburgh Aquapon 97-51/51 - Minimum 2 D.M.T., or
- d. 1 coat - Tnemec Series 66 Hi-Build - Minimum 2 D.M.T., or
- e. an approved equal.

12. RESPONSIBILITY FOR PAINT SYSTEMS

12.1 The intent of this specification is to provide the Contractor with several manufacturers' paint systems on which to base his bid. The Contractor is responsible for verifying with the paint manufacturer before he purchases any material, that the paint system is suitable for use on this project and that application rates, etc., are in compliance with the manufacturer's recommendations.

13. Measurement and Payment

Painting shall not be measured for pay and shall be subsidiary to other work.