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ENGINEERING INSTRUCTION

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUPERSEDED BY EI 90-045
EFFECTIVE 4/18/91

SUBJECT: SPECIFICATIONS FOR BRIDGES - REMOVAL OF
LEAD BASED PAINTS - NEW DEPARTMENTAL PAINT SYSTEM
FOR STRUCTURAL STEEL
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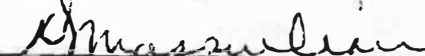
32 Regions

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Code: EI 88-36

Date: October 14, 1988

APPROVED:



ASSISTANT DEPUTY CHIEF ENGINEER (STRUCTURES)

Supersedes:

EI 84-8 & EI 84-22

BACKGROUND

In 1986 the Department adopted a policy for the containment of sandblasting debris generated by paint removal operations on bridge projects requiring cleaning and painting. That policy is detailed in Engineering Instruction (EI) 86-19 and provides for the environmental protection of areas inhabited by people, land devoted to agriculture, and waterways.

After the adoption of that policy the Department was alerted to the possibility that the lead paint chips in sandblasting debris being collected might cause the debris to be classified as hazardous waste. Material designated as hazardous requires special handling and disposal in hazardous landfill disposal sites in accordance with the regulations of the Department of Environmental Conservation. Because there are only a limited number of hazardous landfill disposal sites, (New York has only two, most states have none), the questions of available space and of disposal costs are critical. To ensure that only paint waste actually identified as hazardous is treated as such and to minimize the quantity of hazardous waste collected on future projects, the Department has instituted the following:

1. A program to store, sample and test paint removal waste to determine its hazard level and appropriate procedures for its disposal as hazardous or non-hazardous waste.
2. A new lead free, non-toxic, and environmentally neutral paint system.

Note: The particulars of the preceding are outlined in the Department's "Lead Base Paint Removal Action Plan", Approved July 26, 1988. Copies are available, upon request, from the Technical Services Division, Building 7A, New York State Office Campus, Albany, NY 12232.

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IMPLEMENTATION

A. Storage-Sampling-Testing-Disposal.

In order to implement the testing program, paint removal waste must first be stored and sampled so that it may then be tested. Costs associated with sampling and testing will be borne directly by the Department, leaving the costs for storage to be covered by a contract item. Therefore, the following pay item shall be included in all projects that require environmental ground, or environmental water, protection in accordance with E.I. 86-19. The item is not to be included in projects that do not require such protection:

ITEM 18570.09xxxx* - TEMPORARY STORAGE OF PAINT REMOVAL WASTE

Item 18570.09 provides for the following:

1. Safe storage of possibly hazardous material.
2. The Contractor's role in providing access for sampling purposes.
3. A waiting period for test results to be ascertained as well as the time period the contractor is responsible to ensure the drums remain undamaged and untampered with.
4. Directions to the contractor for disposal of the waste if the test results indicate non-hazardous waste.
5. Payment to the contractor for the storage work as required.
6. Provisions for additional payment if the material is determined to be hazardous and all waste must consequently be stored in a safe manner.

*Item 18570.09 is serialized to allow for an each bridge application. Refer to new painting items for an explanation of serialization.

There may be some instances (e.g. steel stringer repair) in which paint waste removal is so little that testing of the waste becomes of questionable worth. In those instances, the designer is to contact the Technical Services Division for guidance.

It is presumed, for the present, that some bridge cleaning operations will generate hazardous waste and some will not. Non-hazardous waste will be disposed of in accordance with the requirements of standard pay items 570.07 - ENVIRONMENTAL GROUND PROTECTION, or 570.08 - ENVIRONMENTAL WATERWAY PROTECTION, as applicable. (Refer to Section 570, Addendum No. 2, pp. 18-22). There will be no separate pay item for the disposal of non-hazardous paint waste.

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Hazardous paint waste disposal procedures will be outlined in a separate Engineering Instruction. However, it should be noted that the project contractor will not be expected to dispose of hazardous waste. Therefore no pay item for hazardous waste disposal is to be included in contracts requiring field cleaning and structural steel painting.

B. New Department Standard Paint System

In addition to the foregoing, the Department has also determined that the standard lead based paint system no longer fulfills Departmental requirements. Furthermore, the presence of lead in paint formulations renders the removal residue dangerous to workmen, and as previously stated, possibly hazardous to the environment.

Accordingly, a new, two component, three coat system, has been designated as the standard paint system. The primer and intermediate coats are an epoxy mastic and the finish coat is a polyurethane paint. This particular system was chosen for a number of reasons, the major ones being:

- Longer service life
- Compatibility with lead-based paints.
- No need to upgrade steel cleanliness standards
- Environmentally neutral

Special specifications employing the new paint system are attached. They cover all known conditions for painting both new (shop), and in-service (field) steel. Please note that the specification concerned with painting new steel does not permit field painting except for specific locations and minor circumstances. Therefore, if a project requires only the painting of new steel, no environmental protection item will be required.

For field painting, the option of painting over existing tight paint on in-service steel has been continued, since the new system is compatible with lead based paints. Environmental protection may still be required in accordance with the provisions of E.I. 86-19.

Beginning with the effective date of this instruction the following special specifications are the only specifications to be used for painting structural steel. Note that there are seven specification titles. One is concerned with shop application. All others are concerned with field applications. The field application items are divided into two categories, those that allow spray painting operations and those that prohibit spray painting operations. Except for that difference, the specifications for each category are identical in content.

It is the responsibility of the designer to determine the permissibility of spray painting. However, once the decision has been made, consistency rules. Specifications which allow spray painting may not be combined with specifications that prohibit spray painting.

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The specifications are:

- 18570.39XXXX* - SHOP APPLIED STRUCTURAL STEEL PAINT SYSTEM
- 18570.80XXXX - MAINTENANCE CLEANING AND EPOXY PRIMING
- 18570.81XXXX - MAINTENANCE CLEANING AND EPOXY PRIMING (SPRAYING PROHIBITED)
- 18570.82XXXX - MAINTENANCE PAINTING, EPOXY INTERMEDIATE COAT
- 18570.83XXXX - MAINTENANCE PAINTING, EPOXY INTERMEDIATE COAT (SPRAYING PROHIBITED)
- 18570.84XXXX - MAINTENANCE PAINTING, URETHANE FINISH COAT
- 18570.85XXXX - MAINTENANCE PAINTING, URETHANE FINISH COAT (SPRAYING PROHIBITED)

*All item numbers are serialized as denoted by "XXXX". The last four places of the decimal portion of the item number may be numbered as needed without prior approval.

All of the foregoing items and Item 18570.09 will be stocked as Main Office inserts.

C. Effective Date and Disapproval Date.

This Engineering Instruction becomes effective with the letting of January 12, 1989 (P.S.&E. October 20, 1988). As of the effective letting date no other paint system will be permitted for structural steel application, without the express written consent of the Deputy Chief Engineer (Structures). In keeping with this prohibition, E.I. 84-8 - COAL TAR EPOXY COATING FOR EXISTING BRIDGES, is hereby rescinded.

In addition to the foregoing, upon receipt of this instruction the Departmental policy of no lead based paints per itted for any purpose, goes into effect. Therefore, all current specifications both standard, and special, within the "570" series, are disapproved for structural steel, downspouts, galvanized surfaces, timber and lumber, aluminum surfaces, and miscellaneous painting except for the following:

- 570.07 - ENVIRONMENTAL GROUND PROTECTION
- 570.08 - ENVIRONMENTAL WATERWAY PROTECTION

All disapproved specifications are disapproved as of January 12, 1989.

For information regarding the painting of materials other than structural steel, or regarding the new paint system and its application, contact:

D.R. Brewster 518-457-4285

For questions regarding the specification texts, contact:

R.L. Ecuyer 518-457-4549

ITEM 18570.09 - TEMPORARY STORAGE OF PAINT REMOVAL WASTE

DESCRIPTION. The work shall consist of storing all waste collected under the following pay items:

- 570.07 - ENVIRONMENTAL GROUND PROTECTION
- 570.08 - ENVIRONMENTAL WATERWAY PROTECTION

MATERIALS.

Steel storage drums shall meet the following requirements: They shall have a removable lid and shall conform to the U.S. Department of Transportation Code of Federal Regulations, 49 CFR 178.118 (55 gallons). In addition, the lids shall have a threaded bung hole with removable cap.

CONSTRUCTION DETAILS.

All collected waste material shall be deposited in steel storage drums. Preliminary storage shall be limited to 20 drums, or the waste generated as a result of cleaning 100% of the structure, whichever occurs first.

All storage drums shall be completely filled with collected waste and lids shall be attached at all times except during filling and sampling operations. All drums containing waste shall be labeled with attention size lettering - minimum height of one inch - as follows:

WARNING: CONTAINS LEAD. MAY BE HARMFUL IF CHEWED OR INGESTED.
DATE _____.

All waste containing drums shall be kept covered and dry at all times by a method approved by the Engineer.

Sampling of the waste will be done by the State when 20 drums are filled, or when, in the Engineer's opinion, 100% of the structure has been cleaned, whichever occurs first. After sampling, all drums containing waste material shall be sealed with a tamper proof fastener, stored, and protected from weather conditions, at a site, and in a manner acceptable to the Engineer.

It is the contractor's responsibility to provide easy, free access to the drums for the collection of samples by the State's representative. Easy, free access is defined as the ability to approach and sample the material without recourse to specialized machinery such as cranes, lifting equipment, or other such machinery not normally used by construction inspectors. In addition, the contractor shall be responsible for all handling, including removal and replacement of drum lids, required for the State's representative to gather the requisite samples.

After samples have been taken, the State will process them for designation as hazardous, or non-hazardous. The process takes from two to four weeks. During the process time, the contractor may suspend waste generating operations, or may continue. If continuance is chosen, all waste shall be stored in the manner required by this item. However, payment for storage, in excess of the quantities previously noted, will be made only if the waste is designated as hazardous. No payment will be made for excess stored waste designated as non-hazardous.

If the waste is designated as hazardous, the contractor shall collect and store all waste in the manner required by this item. In addition, all such waste shall be stored at a site and in a manner, that allows removal and transportation by others without recourse to specialized machinery other than that normally required for hazardous waste disposal. All storage sites, and methods of storage shall be approved by the Engineer prior to storage. The contractor will be held strictly responsible for all damage to or tampering with the sealed drums until such time as they are removed by others. This responsibility shall begin upon the first day of waste generation and shall continue for 90 calendar days or until the waste is removed by others, whichever occurs first. Each day waste is generated shall be defined as the first day.

If the waste is designated as non-hazardous it shall be disposed of in the manner required by pay item 570.07, or 570.08, as applicable. All warning notices shall be eradicated. No additional payment will be made for disposal of non-hazardous material.

METHOD OF MEASUREMENT. The work will be measured as the total number of drums filled with waste, sealed, and stored in the manner required by this item.

BASIS OF PAYMENT. The unit price bid for each drum shall include the cost of all labor, materials and equipment necessary to complete the work.

Payment will be made in accordance with the following:

Non-Hazardous Waste. Payment will be made at the unit price bid for each drum, up to a maximum of 20 drums. No payment will be made for filled drums in excess of 20 drums.

Hazardous Waste. Payment will be made at the unit price bid for each drum up to a maximum of 20 drums. Filled drums of hazardous waste in excess of 20 drums will be paid for in accordance with Subsection 109-05, Extra and Force Account Work.

DESCRIPTION. This work shall consist of applying a three coat structural steel paint system to structural steel parts. All painting work, except field touch-up and bolt painting, shall be done in the shop.

The three coat paint system shall consist of the following components:

1. Epoxy Primer
2. Epoxy Intermediate Coat
3. Polyurethane Topcoat

All components shall be compatible and supplied by a single manufacturer.

MATERIALS.

Abrasive for Blast Cleaning. Abrasive material for blast cleaning shall be selected by the Contractor. The material shall leave the cleaned steel surface roughened to a degree suitable for the paint system that will be applied.

Paint. All paint used on any one structure shall be produced by a single manufacturer. A list of approved paint types and their manufacturers is appended.

All paint in storage shall be protected from damage and maintained between 35°F and 90°F.

Each single paint (epoxy primer, epoxy intermediate coat and polyurethane topcoat) shall be a different color from the others. The color of the primer and intermediate coat will be the Contractors option. However, they shall contrast with the underlying substrate and/or previously applied paints. The intermediate coat color shall be such that it can be completely hidden by a single coat of topcoat applied at the minimum specified dry film thickness.

The color of the topcoat shall be as specified in the contract documents.

All components of the system (primer, intermediate coat and topcoat) will be accepted on the basis of the manufacturers written certification that the batch produced meets their product specification. Only paint arriving at the work site in new, unopened containers and labeled with the manufacturers name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

CONSTRUCTION DETAILS.Cleaning.

All structural steel surfaces to be painted shall be cleaned to bare steel in accordance with SSPC-SP6, Commercial Blast Cleaning.

Before blast cleaning begins, visible deposits of oil, grease, dirt, salt, or other contaminants shall be removed by the methods specified in SSPC-SP1, Solvent Cleaning.

No blast cleaning will be conducted under the following conditions:

1. The relative humidity exceeds 85%,
2. The surface temperature is less than 5°F above the dew point, and
3. The surface temperature or ambient air temperature is less than 40°F or greater than 100°F.

The area cleaned shall be limited to that which can be cleaned and prime coated within a 24-hour period provided the condition known as flash rusting does not occur. (Refer to Priming). Cleaned areas shall be approved by the Engineer or Inspector prior to priming.

After blast cleaning is completed, cleaned surfaces shall be defined by SSPC-Vis1, Pictorial Standards BSA2, CSA2 and DSA2 as applicable. All surfaces shall be cleaned of blasting products and other residues in accordance with SSPC-SP6. Cleaned surfaces shall be cleared of all foreign matter only by means of oil-free, and water-free compressed air, or vacuum systems.

Painting-General.

At least 5 working days prior to the start of work the Contractor shall supply the Engineer with one copy of the paint manufacturers current technical data for each paint furnished. Instructions, suggestions and precautions shall be followed to the extent they do not contradict the provisions of this specification.

All paint shall be thoroughly mixed in accordance with the manufacturer's instructions. Mechanical mixers shall be used.

Only properly sealed and unopened paint containers will be permitted for use. Containers opened prior to the Engineer's or Inspector's authorization, or tampered with containers, shall be rejected and removed from the work site. All such containers shall be replaced by properly sealed containers at no additional cost.

Thinning of paint will be allowed only with the express permission of the Engineer or Inspector. All thinning shall be done in strict accordance with manufacturer's instructions. Only the type and quantity of thinner recommended by the manufacturer shall be used. Unauthorized use of thinners will result in the recleaning and repainting of the affected surface in a manner satisfactory to the Engineer or Inspector at no additional cost.

Paint may be applied by brush, roller or air-less sprav methods unless otherwise recommended by the paint manufacturer. The requirements and restrictions of Standard Specification §740-01 apply.

Individual coats shall be applied in sufficient quantity so that the following minimum dry film thicknesses (DFT) result:

<u>Primer</u>	<u>Intermediate</u>	<u>Finish</u>
4.0 mils	4.0 mils	3.0 mils

NOTE: The wet film thickness required to obtain the required DFT is dependent upon the percent solids by volume of the paint. This will vary somewhat for each system.

DFT determinations will be made by the Engineer or Inspector in accordance with SSPC-PA2, Paint Application Specification No. 2, Measurement of Dry Paint Thickness with Magnetic Gages. The Contractor shall supply all the equipment required by §740-01 as well as two fixed probe magnetic gages Positector, or equal, as approved by the Director, Materials Bureau. No work shall be done until all the required equipment is supplied.

No paint shall be applied unless all of the following conditions are met:

1. The receiving surface shall be clean and absolutely dry.
2. The surface temperature and ambient air temperature are as recommended by the paint manufacturer except in no case shall painting work be performed when surface and ambient air temperatures are less than 40°F or greater than 100°F.
3. The receiving surface temperature shall and be at least 5°F above the dew point.
4. The relative humidity shall not exceed 85%.
5. The Engineer or Inspector determines no poor adhesion or other non-acceptable condition will result.

All paint applied in violation of these conditions shall be completely removed, and the affected surface cleaned and repainted in accordance with stated requirements at no additional costs.

All individual coats shall be applied as required by the manufacturer's instructions. No coat of paint shall be applied until the previous coat has cured in accordance with the manufacturer's instructions and has been approved by the Engineer or Inspector.

All work is subject to inspection. The contractor shall provide adequate access and suitable lighting for such inspections to be made. All work done while the Engineer or Inspector has been refused, denied, or restricted from access, or work performed in a manner that in the Engineer/Inspector's opinion prevents adequate inspection; will automatically be rejected. All such work shall be recleaned and repainted in accordance with these requirements at no additional cost.

The Engineer or Inspector will take wet and dry film readings to ensure minimum coating thicknesses and evenness of application. Coatings shall also be monitored for the presence of holidays, pinholing, bubbling, cratering, frothing, lack of adhesion and other defects. Coatings having less than the required dry film thickness, or other defects unacceptable to the Engineer or Inspector, shall be corrected in a manner satisfactory to the Engineer or Inspector at no additional cost.

PAINTING-SHOP

Priming

The following shall not be primed:

- Metal to metal contact surfaces,
- All metal surfaces to be in contact with concrete, and
- Bolts, nuts and washers.

Priming shall begin only after all welding and fabrication work is completed and accepted.

Cleaned bare metal surfaces shall have all blasting products removed and shall have the primer applied within 24-hours after completion of the blasting operations, and before the condition known as flash-rusting occurs. No bare steel surface prepared for priming shall be left uncoated long enough to allow the formation of rust. No rust formation of any nature will be permitted. Cleaned areas upon which rust has formed shall be recleaned in accordance with these cleaning requirements at no additional cost. The presence of rust shall be determined by the Engineer or Inspector. Surfaces receiving primer shall be absolutely clean and dry prior to primer application.

All welds, edges of plates, angles or other shapes, corners and crevices shall be striped before the full coat of primer is applied. All stripe painting shall be done by spray application only. The stripe shall

extend a minimum of one inch from the edge or corner. The stripe coat shall be set (dried) in accordance with the manufacturer's recommendations before application of the full prime coat.

Intermediate Coat.

The requirements given under Priming together with the following shall apply:

Prior to application, if detrimental material, surface contamination(s), etc. are present, the primed surface shall be cleaned in accordance with the paint manufacturer's recommendations or as directed by the Engineer or Inspector.

Stripe painting shall not be required.

The intermediate coat shall be applied within the time period recommended by the manufacturer for re-coating, except that in no case shall more than 30 days expire. Steel not painted with the intermediate coat within the specified time period(s) shall be recleaned and repainted with another prime coat at the Contractor's expense.

Finish coat.

The requirements of Priming and Intermediate Coat (including the 30-day application requirements for re-coating) shall apply together with the following:

1. Stripe painting shall not be required.
2. Finish coat color shall be that required by the plans.

PAINTING-FIELD

The only field work allowed to be done under this item is touch-up work after all steel erection has been completed and all concrete placement has been completed.

All the requirements of this specification shall apply to field painted material with the following modifications:

1. Bolt heads, washers, nuts, bolt thread extensions, and other miscellaneous steel surfaces not painted in the shop, shall be cleaned and painted after the bolts have been installed and accepted.
2. Cleaning shall be done in accordance with the requirements of SSPC-SP1, Solvent Cleaning, and SSPC-SP2, Hand Tool Cleaning.

3. Hand tool cleaning will be limited to hand wire brushing, hand abrading, or other similar non-impact methods.
4. All three coats (primer, intermediate and finish) shall be applied.

Application shall be made by brush only. DFT requirements of this item shall apply.

All damage to the paint system shall be corrected by the contractor in accordance with the requirements of this item and to the satisfaction of the Engineer/Inspector at no additional cost to the State.

The contractor shall be responsible for damage attributable to drifting paint. The Engineer will be empowered to terminate spraving or rolling operations as noted in Standard Specification §740.01. Termination of Spraving or Rolling Operations. Should the Engineer terminate the contractor's application method(s), the terms of §740-01 shall apply.

METHOD OF MEASUREMENT. Payment will be made at the lump sum price bid.

BASIS OF PAYMENT. The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work.

Progress payments will be made in accordance with the following schedule:

1. Eighty percent (80%) of the lump sum price will be authorized for payment upon delivery and storage of properly painted structural steel to the project site. Shop painted steel will be considered properly painted only if accompanied by the Department's shop inspector's written certification that the steel delivered as part of any single delivery was painted in accordance with the requirements of this item.
2. Ten percent (10%) of the lump sum price will be authorized for payment upon the completion of cleaning and painting all bolt heads, washers, nuts and bolt thread extensions.
3. The remainder will be authorized for payment after all touch-up work is completed.

ITEM 18570.39

SHOP APPLIED STRUCTURAL STEEL PAINT SYSTEM

ACCEPTABLE MANUFACTURERS AND PRODUCTS*
THREE COAT PAINT SYSTEM (ITEM 18570.)

Manufacturer	Epoxy Primer(s)	Epoxy Intermediate Coat(s)	Polyurethane Topcoat
Ameron Protective Coatings Div. Brea, CA	Amerlock 400 AL	Amerlock 400** or Amerlock 400 AL**	Amershield
Carboline Company St. Louis, MO	Carbonastic 90 Aluminum** or Carboline 893 RCP**	Carbonastic 90 Aluminum** or Carboline 893 RCP**	Carboline 133 HR** or Carboline D834T**
Con-Lux Coatings, Inc. Edison, NJ	Epolon Mastic 81 Aluminum	Epolon Mastic 36 White** or Epolon Mastic 81 Aluminum**	Acron 205 Multi-Mil Series
The Sherwin-Williams Company Cleveland, OH	Epoxy Mastic Aluminum B62S10/B60V11	Epoxy Mastic Aluminum** B62S10/B60V11 or Epoxy Mastic Coating** E56 Series/R58V1	HI-RJ14 Aliphatic Polyurethane Enamel B65 Series/B60V7
The Valspar Corporation Baltimore MD	Alumapoxv 75-A-J	Alumapoxv 75-A-1	V-Thane HI-Solids Urethane Enamel 54-K-9

*The Contractor is advised that some paint systems may not conform to existing regulations for the emission of Volatile Organic Compounds (VOC's). The Contractor shall be responsible for selecting a system that is suitable for application at the painting location.

No material substitutions will be allowed for this Contract.

**The Contractor may supply either product, at his option.

DESCRIPTION:

This work shall consist of cleaning and priming in-service structural steel surfaces where indicated by the Contract documents or where ordered by the Engineer.

MATERIAL:

At the Contractor's option any one of the following primers may be used and applied so as to produce the minimum dry film thickness specified below:

- | | | |
|--|---|-----------|
| 1. Ameron Protective Coatings Div.
Brea, CA | Amerlock 400 AL | (4) Mils. |
| 2. Carboline Company
Saint Louis, MO | Carbomastic 90 Aluminum
or
Carboline 893 RCP* | (4) Mils. |
| 3. Con-Lux Coatings Inc.
Edison, NJ | Epolon Mastic 81 Aluminum | (4) Mils. |
| 4. The Sherwin-Williams Co.
Cleveland, OH | Epoxy Mastic Aluminum
B62S10/B60V11 | (4) Mils. |
| 5. The Valspar Corp.
Baltimore, MD | Alumapoxy 75-A-1 | (4) Mils. |

*The Contractor may supply either product, at his option.

NOTE: All primer and paint used on any one structure shall be produced by the same manufacturer. Each single paint component shall be a color different from the others.

Primer acceptance will be based on the manufacturers written certification for the batch produced that it meets their product specification. Only primer arriving at the work site in new unopened containers and labeled with the manufacturer's name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

CONSTRUCTION DETAILS:

The requirements of Standard Specification §570-3.02 shall apply with the following modifications:

1. Manufacturers Instructions. At least 5 working days prior to the start of work the Contractor shall provide the Engineer with one copy of the paint manufacturer's current technical data for the

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primer furnished. Instructions, suggestions and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.

2. Atmospheric Conditions. No work, surface preparation (cleaning) or paint application shall be performed unless all the following conditions are met:
 - a. The receiving surface shall be clean and absolutely dry.
 - b. The receiving surface temperature and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall cleaning or painting work be performed when surface and ambient temperatures are less than 40°F or greater than 100°F.
 - c. The receiving surface temperature shall be at least 5°F above the dew point.
 - d. The relative humidity shall be less than 85%.

In addition paint shall not be applied if atmospheric conditions predicted by the U.S. Weather Bureau or other weather service are predicted to change so as to cause, in the opinion of the Engineer, unsatisfactory results.

3. Mixing. Paint shall be proportioned and thoroughly mixed with mechanical mixers in accordance with the paint manufacturer's recommendations.
4. Thinning. Primer may be thinned only if recommended by the manufacturer, done in strict compliance with the manufacturers instructions, approved by the Engineer and mixed in the presence of the Engineer. Only the type and quantity of thinner recommended by the manufacturer shall be used.
5. Film Thickness. The dry film thickness shall be determined in accordance with SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages. Dry film thickness shall be measured by fixed probe magnetic gages. The Contractor shall supply all the equipment required by Standard Specification \$740-01 as well as two fixed probe magnetic gages-Positector, or equal as approved by the Director, Materials Bureau. No work shall be done until the required equipment is supplied.
6. Recoating and Overcoating. Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of primer to produce at least the total dry film thickness required. Primer applied containing

unauthorized thinners, primer applied to contaminated surfaces and primer applied contrary to this specification shall result in the recleaning and repriming the surface. The work of recleaning, repainting or overcoating, if required shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the State. Primer used for recoating and overcoating shall be tinted to slightly color contrast with the underlying coating.

7. Schedule. Primer shall be applied within the same day as the cleaning operations and before flash rusting occurs to the cleaned surface.
8. Material Storage. Primer in storage shall be protected from damage and maintained between 35 Deg F and 90 Deg F. Primer not used before the expiration date shown on the containers shall be immediately removed from the project site.

METHOD OF MEASUREMENT:

Payment shall be made at the lump sum price bid.

BASIS OF PAYMENT:

The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. Progress payments will be made based on the percentage of the structure cleaned and primed in accordance with the requirements of Standard Specification §740-01. The percentage shall be computed as the length of structure cleaned and primed to the total length of structure.

ITEM 18570.81 MAINTENANCE CLEANING AND EPOXY PRIMING (SPRAY PROHIBITED)

DESCRIPTION:

This work shall consist of cleaning and priming in-service structural steel surfaces where indicated by the Contract documents or where ordered by the Engineer.

MATERIAL:

At the Contractor's option any one of the following primers may be used and applied so as to produce the minimum dry film thickness specified below:

- | | | |
|--|---|-----------|
| 1. Ameron Protective Coatings Div.
Brea, CA | Amerlock 400 AL | (4) Mils. |
| 2. Carboline Company
Saint Louis, MO | Carbomastic 90 Aluminum
or
Carboline 893 RCP* | (4) Mils. |
| 3. Con-Lux Coatings Inc.
Edison, NJ | Epolon Mastic 81 Aluminum | (4) Mils. |
| 4. The Sherwin-Williams Co.
Cleveland, OH | Epoxy Mastic Aluminum
B62S10/B60V11 | (4) Mils. |
| 5. The Valspar Corp.
Baltimore, MD | Alumapoxy 75-A-1 | (4) Mils. |

*The Contractor may supply either product, at his option.

NOTE: All primer and paint used on any one structure shall be produced by the same manufacturer. Each single paint component shall be a color different from the others.

Primer acceptance will be based on the manufacturers written certification for the batch produced that it meets their product specification. Only primer arriving at the work site in new unopened containers and labeled with the manufacturer's name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

CONSTRUCTION DETAILS:

The requirements of Standard Specification §570-3.02 shall apply with the following modifications:

1. Manufacturers Instructions. At least 5 working days prior to the start of work the Contractor shall provide the Engineer with one copy of the paint manufacturer's current technical data for the

primer furnished. Instructions, suggestions and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.

2. Atmospheric Conditions. No work, surface preparation (cleaning) or paint application shall be performed unless all the following conditions are met:
 - a. The receiving surface shall be clean and absolutely dry.
 - b. The receiving surface temperature and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall cleaning or painting work be performed when surface and ambient temperatures are less than 40°F or greater than 100°F.
 - c. The receiving surface temperature shall be at least 5°F above the dew point.
 - d. The relative humidity shall be less than 85%.

In addition paint shall not be applied if atmospheric conditions predicted by the U.S. Weather Bureau or other weather service are predicted to change so as to cause, in the opinion of the Engineer, unsatisfactory results.

3. Mixing. Paint shall be proportioned and thoroughly mixed with mechanical mixers in accordance with the paint manufacturer's recommendations.
4. Thinning. Primer may be thinned only if recommended by the manufacturer, done in strict compliance with the manufacturers instructions, approved by the Engineer and mixed in the presence of the Engineer. Only the type and quantity of thinner recommended by the manufacturer shall be used.
5. Application. Paint shall be applied in accordance with Standard Specification §740-01, using brushes or rollers, only. Spray painting (conventional, air-less or electrostatic) will not be allowed.
6. Film Thickness. The dry film thickness shall be determined in accordance with SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages. Dry film thickness shall be measured by fixed probe magnetic gages. The Contractor shall supply all the equipment required by Standard Specification §740-01 as well as two fixed probe magnetic gages-Positector, or equal as approved by the Director, Materials Bureau. No work shall be done until the required equipment is supplied.

ITEM 18570.81

MAINTENANCE CLEANING AND EPOXY PRIMING (SPRAY PROHIBITED)

7. Recoating and Overcoating. Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of primer to produce at least the total dry film thickness required. Primer applied containing unauthorized thinners, primer applied to contaminated surfaces and primer applied contrary to this specification shall result in the recleaning and repriming the surface. The work of recleaning, repainting or overcoating, if required shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the State. Primer used for recoating and overcoating shall be tinted to slightly color contrast with the underlying coating.
8. Schedule. Primer shall be applied within the same day as the cleaning operations and before flash rusting occurs to the cleaned surface.
9. Material Storage. Primer in storage shall be protected from damage and maintained between 35 Deg F and 90 Deg F. Primer not used before the expiration date shown on the containers shall be immediately removed from the project site.

METHOD OF MEASUREMENT:

Payment shall be made at the lump sum price bid.

BASIS OF PAYMENT:

The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. Progress payments will be made based on the percentage of the structure cleaned and primed in accordance with the requirements of Standard Specification §740-01. The percentage shall be computed as the length of structure cleaned and primed to the total length of structure.

ITEM 18570.82 MAINTENANCE PAINTING EPOXY INTERMEDIATE COAT

DESCRIPTION:

This work shall consist of painting one full coat of intermediate paint to all in-service steel where indicated by the Contract documents which has been previously cleaned and primed in accordance with Item 18570.80.

MATERIAL:

At the Contractor's option any one of the following intermediate paints may be used and applied so as to produce the minimum dry film thickness specified below:

- | | | | |
|----|---|--|-----------|
| 1. | Ameron Protective Coatings Div.
Brea, CA | Amerlock 400*
or
Amerlock 400 AL* | (4) Mils. |
| 2. | Carboline Company
Saint Louis, MO 13244 | Carbomastic 90 Aluminum*
or
Carboline 893 RCP* | (4) Mils. |
| 3. | Con-Lux Coatings Inc.
Edison, NJ | Epolon Mastic 36 White*
or
Epolon Mastic 81 Aluminum* | (4) Mils. |
| 4. | The Sherwin-Williams Co.
Cleveland, OH | Epoxy Mastic Aluminum*
B62S10/B60V11
or
Epoxy Mastic Coating*
B58 Series/B58V1 | (4) Mils. |
| 5. | The Valspar Corp.
Baltimore, MD | Alum _a poxy 75-A-1 | (4) Mils. |

*The Contractor may supply either product, at his option.

NOTE: All paint used on any one structure shall be produced by the same manufacturer. The color of the intermediate paint will be at the Contractor's option, except that it shall provide contrast with previously applied paints and shall be such that it will be completely hidden by a single coat of finish paint applied in accordance with Item 18570.84.

Paint acceptance will be based on the manufacturers written certification for the batch produced that it meets their product specifications. Only paint arriving at the work site in new unopened containers and labeled with the manufacturer's name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

CONSTRUCTION DETAILS:

The requirements of Standard Specification §570-3.03 shall apply with the following modifications:

1. Manufacturers Instructions. At least 5 working days prior to the start of work, the Contractor shall provide the Engineer with one copy of the paint manufacturer's current technical data for the paint furnished. Instructions, suggestions and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.
2. Atmospheric Conditions. No painting work shall be performed unless all the following conditions are met:
 - a. The receiving surface shall be clean and absolutely drv.
 - b. The receiving surface temperature and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall cleaning or painting work be performed when surface and ambient temperatures are less than 40°F or greater than 100°F.
 - c. The receiving surface temperature shall be at least 5°F above the dew point.
 - d. The relative humidity shall be less than 85%.

In addition paint shall not be applied if atmospheric conditions predicted by the U.S. Weather Bureau or other weather service are predicted to change so as to cause, in the opinion of the Engineer, unsatisfactory results.

3. Cleaning At the time of paint application the receiving surface shall be free of all contaminates such as petroleum products, sand blasting aggregates and other debris generated by the cleaning operations, dirt, dust, bird excrements and moisture. Should an exudate haze form on the receiving surface it shall be washed off with mineral spirits or detergent and water. All cleaning required on the receiving surface to remove these or other contaminates shall be done in accordance with SSPC-SP1 No. 1, Solvent Cleaning.
4. Mixing. Paint shall be proportioned and thoroughly mixed with mechanical mixers in accordance with the paint manufacturer's recommendations.
5. Thinning. Paint may be thinned only if recommended by the manufacturer, done in strict compliance with the manufacturer's instructions, approved by the Engineer and mixed in the presence of the Engineer. Only the type and quantity of thinner recommended by the manufacturer shall be used.

6. Film Thickness. The dry film thickness shall be determined in accordance with SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages. Dry film thickness shall be measured by fixed probe magnetic gages. The Contractor shall supply all the equipment required by Standard Specification §740-01, as well as two fixed probe magnetic gages - Positector, or equal as approved by the Director, Materials Bureau. No work shall be done until the required equipment is supplied.
7. Recoating and Overcoating. Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of intermediate paint to produce at least the total dry film thickness required. Paint applied containing unauthorized thinners, paint applied to contaminated surfaces and paint applied contrary to this specification shall result in the recleaning and repainting the surface. The work of re-cleaning, repainting or overcoating, if required shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the State.
8. Schedule. The intermediate paint shall be applied to the receiving surface within 30 days of the application of the previous coating (primer), or within the manufacturers recommended schedule for recoating whichever is less.
9. Material Storage. Paint in storage shall be protected from damage and maintained between 35 Deg F and 90 Deg F. Paint not used before the expiration date shown on the containers shall be immediately removed from the project site.

METHOD OF MEASUREMENT:

Payment shall be made at the lump sum price bid.

BASIS OF PAYMENT:

The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. Progress payments will be made based on the percent of the structure painted the intermediate coat in accordance with the requirements of Standard Specifications §740-01. The percentage will be computed as the ratio of the length of the structure to the total length of the structure painted under this item.

ITEM 18570.83 MAINTENANCE PAINTING EPOXY INTERMEDIATE COAT (SPRAY PROHIBITED)

DESCRIPTION:

This work shall consist of painting one full coat of intermediate paint to all in-service steel where indicated by the Contract documents which has been previously cleaned and primed in accordance with Item 18570.81.

MATERIAL:

At the Contractor's option any one of the following intermediate paints may be used and applied so as to produce the minimum dry film thickness specified below:

- | | | | |
|----|---|--|-----------|
| 1. | Ameron Protective Coatings Div.
Brea, CA | Amerlock 400*
or
Amerlock 400 AL* | (4) Mils. |
| 2. | Carboline Company
Saint Louis, MO 13244 | Carbomastic 90 Aluminum*
or
Carboline 893 RCP* | (4) Mils. |
| 3. | Con-Lux Coatings Inc.
Edison, NJ | Epolon Mastic 36 White*
or
Epolon Mastic 81 Aluminum* | (4) Mils. |
| 4. | The Sherwin-Williams Co.
Cleveland, OH | Epoxy Mastic Aluminum*
B62S10/B60V11
or
Epoxy Mastic Coating*
B58 Series/B58V1 | (4) Mils. |
| 5. | The Valspar Corp.
Baltimore, MD | Alumapoxy 75-A-1 | (4) Mils. |

*The Contractor may supply either product, at his option.

NOTE: All paint used on any one structure shall be produced by the same manufacturer. The color of the intermediate paint will be at the Contractor's option, except that it shall provide contrast with previously applied paints and shall be such that it will be completely hidden by a single coat of finish paint applied in accordance with Item 18570.85.

Paint acceptance will be based on the manufacturers written certification for the batch produced that it meets their product specifications. Only paint arriving at the work site in new unopened containers and labeled with the manufacturer's name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

ITEM 18570.83 MAINTENANCE PAINTING EPOXY INTERMEDIATE COAT (SPRAY PROHIBITED)

CONSTRUCTION DETAILS:

The requirements of Standard Specification §570-3.03 shall apply with the following modifications:

1. Manufacturers Instructions. At least 5 working days prior to the start of work, the Contractor shall provide the Engineer with one copy of the paint manufacturer's current technical data for the paint furnished. Instructions, suggestions and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.
2. Atmospheric Conditions. No painting work shall be performed unless all the following conditions are met:
 - a. The receiving surface shall be clean and absolutely dry.
 - b. The receiving surface temperature and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall cleaning or painting work be performed when surface and ambient temperatures are less than 40°F or greater than 100°F.
 - c. The receiving surface temperature shall be at least 5°F above the dew point.
 - d. The relative humidity shall be less than 85%.

In addition paint shall not be applied if atmospheric conditions predicted by the U.S. Weather Bureau or other weather service are predicted to change so as to cause, in the opinion of the Engineer, unsatisfactory results.

3. Cleaning At the time of paint application the receiving surface shall be free of all contaminants such as petroleum products, sand blasting aggregates and other debris generated by the cleaning operations, dirt, dust, bird excrements and moisture. Should an exudate haze form on the receiving surface it shall be washed off with mineral spirits or detergent and water. All cleaning required on the receiving surface to remove these or other contaminants shall be done in accordance with SSPC-SPI No. 1, Solvent Cleaning.
4. Mixing. Paint shall be proportioned and thoroughly mixed with mechanical mixers in accordance with the paint manufacturer's recommendations.
5. Thinning. Paint may be thinned only if recommended by the manufacturer, done in strict compliance with the manufacturer's instructions, approved

ITEM 18570.83 MAINTENANCE PAINTING EPOXY INTERMEDIATE COAT (SPRAY PROHIBITED)

- by the Engineer and mixed in the presence of the Engineer. Only the type and quantity of thinner recommended by the manufacturer shall be used.
6. Application. Paint shall be applied in accordance with Standard Specification §740-01, using brushes or rollers, only. Spray painting (conventional, air-less or electrostatic) will not be allowed.
 7. Film Thickness. The dry film thickness shall be determined in accordance with SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages. Dry film thickness shall be measured by fixed probe magnetic gages. The Contractor shall supply all the equipment required by Standard Specification §740-01, as well as two fixed probe magnetic gages - Positector, or equal as approved by the Director, Materials Bureau. No work shall be done until the required equipment is supplied.
 8. Recoating and Overcoating. Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of intermediate paint to produce at least the total dry film thickness required. Paint applied containing unauthorized thinners, paint applied to contaminated surfaces and paint applied contrary to this specification shall result in the recleaning and repainting the surface. The work of re-cleaning, repainting or overcoating, if required shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the State.
 9. Schedule. The intermediate paint shall be applied to the receiving surface within 30 days of the application of the previous coating (primer), or within the manufacturers recommended schedule for recoating whichever is less.
 10. Material Storage. Paint in storage shall be protected from damage and maintained between 35 Deg F and 90 Deg F. Paint not used before the expiration date shown on the containers shall be immediately removed from the project site.

METHOD OF MEASUREMENT:

Payment shall be made at the lump sum price bid.

BASIS OF PAYMENT:

The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. Progress payments will be made based on the percent of the structure painted the intermediate coat in accordance with the requirements of Standard Specifications §740-01. The percentage will be computed as the ratio of the length of the structure to the total length of the structure painted under this item.

ITEM 18570.84

MAINTENANCE PAINTING URETHANE FINISH COAT

DESCRIPTION:

This work shall consist of painting one full coat of finish paint to all in-service steel where indicated by the Contract documents, which has been previously painted in accordance with Item 18570.82.

MATERIAL:

At the Contractor's option any one of the following finish paints may be used and applied so as to produce the minimum dry film thickness specified below:

- | | | |
|--|--|-----------|
| 1. Ameron Protective Coatings Div.
Brea, CA | Amershield | (3) Mils. |
| 2. Carboline
Saint Louis, MO | Carboline 133 HB*
or
Carboline D834T* | (3) Mils. |
| 3. Con-Lux Coatings Inc.
Edison, NJ | Acrolon 205
Multi-Mil Series | (3) Mils. |
| 4. The Sherwin-Williams Co.
Cleveland, OH | Hi-Bild Aliphatic
Polvurethane Enamel
B65 Series/B60V2 | (3) Mils. |
| 5. The Valspar Corp.
Baltimore, MD | V-Thane Hi-Solids
Urethane Enamel
54-W-9 | (3) Mils. |

*The Contractor may supply either product, at his option.

NOTE: All paint used on any one structure shall be produced by the same manufacturer.

The color of the finish paint shall be as specified in the contract documents.

Paint acceptance will be based on the manufacturers written certification for the batch produced that it meets their product specification. Only paint arriving at the work site in new unopened containers and labeled with the manufacturer's name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

CONSTRUCTION DETAILS:

The requirements of Standard Specification Section 570-3.03 shall apply with the following modifications:

1. Manufacturers Instructions. At least 5 working days prior to the start of work the Contractor shall provide the Engineer with one copy of the paint manufacturer's current technical data for the paint furnished. Instructions, suggestions and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.
2. Atmospheric Conditions. No paint application shall be performed unless all the following conditions are met:
 - a. The receiving surface shall be clean and absolutely dry.
 - b. The receiving surface temperature and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall painting work be performed when surface and ambient temperatures are less than 40°F or greater than 100°F.
 - c. The receiving surface temperature shall be at least 5°F above the dew point.
 - d. The relative humidity shall be less than 85%.

In addition paint shall not be applied if atmospheric conditions predicted by the U.S. Weather Bureau or other weather service are predicted to change so as to cause, in the opinion of the Engineer, unsatisfactory results.

3. Cleaning At the time of paint application the receiving surface shall be free of all contaminants such as petroleum products, sand blasting aggregates and other debris generated by the cleaning operations, dirt, dust, bird excrements and moisture. Should an exudate haze form on the receiving surface it shall be washed off with mineral spirits or detergent and water. All cleaning required on the receiving surface to remove these or other contaminants shall be done in accordance with SSPC-SP1 No. 1, Solvent Cleaning.
4. Mixing. Paint shall be proportioned and thoroughly mixed with mechanical mixers in accordance with the paint manufacturer's recommendations.
5. Thinning. Paint may be thinned only if recommended by the manufacturer, done in strict compliance with the manufacturer's instructions, approved

by the Engineer and mixed in the presence of the Engineer. Only the type and quantity of thinner recommended by the manufacturer shall be used.

6. Film Thickness. The dry film thickness shall be determined in accordance with SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages. Dry film thickness shall be measured by fixed probe magnetic gages. The Contractor shall supply all the equipment required by Standard Specification \$740-01, as well as two fixed probe magnetic gages - Positector, or equal as approved by the Director, Materials Bureau. No work shall be done until the required equipment is supplied.
7. Recoating and Overcoating. Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of finish paint to produce at least the total dry film thickness required. Paint applied containing unauthorized thinners, paint applied to contaminated surfaces and paint applied contrary to this specification shall result in the recleaning and repainting the surface. The work of re-cleaning, repainting or overcoating, if required shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the State.
8. Schedule. The finish paint shall be applied to the receiving surface within 30 days of application of the previous coating or within the manufacturers recoat or topcoat schedule recommendation whichever is less.
9. Material Storage. Paint in storage shall be protected from damage and maintained between 35°F and 90°F. Paint not used before the expiration date shown on the containers shall be immediately removed from the project site.

METHOD OF MEASUREMENT:

Payment shall be made at the lump sum price bid.

BASIS OF PAYMENT:

The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. Progress payments will be made based on the percent of the structure painted the finish coat in accordance with the requirements of Standard Specification \$740-01. The percentage will be computed as the ratio of the length of the structure to the total length of the structure painted under this item.

ITEM 18570.85 MAINTENANCE PAINTING URETHANE FINISH COAT (SPRAY PROHIBITED)

DESCRIPTION:

This work shall consist of painting one full coat of finish paint to all in-service steel where indicated by the Contract documents, which has been previously painted in accordance with Item 18570.83.

MATERIAL:

At the Contractor's option any one of the following finish paints may be used and applied so as to produce the minimum dry film thickness specified below:

- | | | |
|--|--|-----------|
| 1. Ameron Protective Coatings Div.
Brea, CA | Amershield | (3) Mils. |
| 2. Carboline
Saint Louis, MO | Carboline 133 HR*
or
Carboline D834T* | (3) Mils. |
| 3. Con-Lux Coatings Inc.
Edison, NJ | Acrolon 205
Multi-Mil Series | (3) Mils. |
| 4. The Sherwin-Williams Co.
Cleveland, OH | Hi-Bild Aliphatic
Polyurethane Enamel
B65 Series/B60V2 | (3) Mils. |
| 5. The Valspar Corp.
Baltimore, MD | V-Thane Hi-Solids
Urethane Enamel
54-W-9 | (3) Mils. |

*The Contractor may supply either product, at his option.

NOTE: All paint used on any one structure shall be produced by the same manufacturer.

The color of the finish paint shall be as specified in the contract documents.

Paint acceptance will be based on the manufacturers written certification for the batch produced that it meets their product specification. Only paint arriving at the work site in new unopened containers and labeled with the manufacturer's name, product name, component part, batch number and shelf life date may be used. Paint in containers having expired shelf life dates shall be immediately removed from the work site and not used.

CONSTRUCTION DETAILS:

The requirements of Standard Specification Section 570-3.03 shall apply with the following modifications:

1. Manufacturers Instructions. At least 5 working days prior to the start of work the Contractor shall provide the Engineer with one copy of the paint

ITEM 18570.85 MAINTENANCE PAINTING URETHANE FINISH COAT (SPRAY PROHIBITED)

manufacturer's current technical data for the paint furnished. Instructions, suggestions and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.

2. Atmospheric Conditions. No paint application shall be performed unless all the following conditions are met:
 - a. The receiving surface shall be clean and absolutely dry.
 - b. The receiving surface temperature and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall painting work be performed when surface and ambient temperatures are less than 40°F or greater than 100°F.
 - c. The receiving surface temperature shall be at least 5°F above the dew point.
 - d. The relative humidity shall be less than 85%.

In addition paint shall not be applied if atmospheric conditions predicted by the U.S. Weather Bureau or other weather service are predicted to change so as to cause, in the opinion of the Engineer, unsatisfactory results.

3. Cleaning. At the time of paint application the receiving surface shall be free of all contaminants such as petroleum products, sand blasting aggregates and other debris generated by the cleaning operations, dirt, dust, bird excrements and moisture. Should an exudate haze form on the receiving surface it shall be washed off with mineral spirits or detergent and water. All cleaning required on the receiving surface to remove these or other contaminants shall be done in accordance with SSPC-SP1 No. 1, Solvent Cleaning.
4. Mixing. Paint shall be proportioned and thoroughly mixed with mechanical mixers in accordance with the paint manufacturer's recommendations.
5. Thinning. Paint may be thinned only if recommended by the manufacturer, done in strict compliance with the manufacturer's instructions, approved by the Engineer and mixed in the presence of the Engineer. Only the type and quantity of thinner recommended by the manufacturer shall be used.
6. Application. Paint shall be applied in accordance with Standard Specification §704-01, using brushes or rollers only. Spray painting (conventional, air-less or electrostatic) will not be allowed.

ITEM 18570.85 MAINTENANCE PAINTING URETHANE FINISH COAT (SPRAY PROHIBITED)

7. Film Thickness. The dry film thickness shall be determined in accordance with SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages. Dry film thickness shall be measured by fixed probe magnetic gages. The Contractor shall supply all the equipment required by Standard Specification §740-01, as well as two fixed probe magnetic gages - Positector, or equal as approved by the Director, Materials Bureau. No work shall be done until the required equipment is supplied.
8. Recoating and Overcoating. Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of finish paint to produce at least the total dry film thickness required. Paint applied containing unauthorized thinners, paint applied to contaminated surfaces and paint applied contrary to this specification shall result in the recleaning and repainting the surface. The work of re-cleaning, repainting or overcoating, if required shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the State.
9. Schedule. The finish paint shall be applied to the receiving surface within 30 days of application of the previous coating or within the manufacturers recoat or topcoat schedule recommendation whichever is less.
10. Material Storage. Paint in storage shall be protected from damage and maintained between 35°F and 90°F. Paint not used before the expiration date shown on the containers shall be immediately removed from the project site.

METHOD OF MEASUREMENT:

Payment shall be made at the lump sum price bid.

BASIS OF PAYMENT:

The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work. Progress payments will be made based on the percent of the structure painted the finish coat in accordance with the requirements of Standard Specification §740-01. The percentage will be computed as the ratio of the length of the structure to the total length of the structure painted under this item.