

Part 1 General

1.1 DESCRIPTION

- .1 Requirements for supply and installation of a lining waterproofing system to interior walls and underside of roof slabs inside the Digester No. 11 and Sludge Holding Tanks No. 5 and No. 7.
- .2 Include all equipment protections, ventilation system, access facilities and air monitoring equipment as required for a proper lining application inside a confined space.
- .3 Comply with the requirements of the Manitoba Occupational Health and Safety Act and Regulations for Construction Projects.

1.2 RELATED WORK

- .1 Cast in Place Concrete Section 03 30 00
- .2 Shotcrete Section 03 37 13
- .3 Concrete Restoration Section 03 70 00

1.3 QUALITY ASSURANCE

- .1 Use manufacturer's approved and trained applicator for the lining work. All work must be supervised by the manufacturer's technical representative.
- .2 Prepare a site sample approximately 4' x 8' (1200 mm x 2400 mm). This sample shall be regarded as the minimum standard of workmanship/finish acceptable for this project. This sample shall also demonstrate the "flexible" nature of the product.
- .3 Maintain a record of the batch numbers of all materials supplied on this project.
- .4 Lining System must be suitable for sewage storage application and meet the gas tightness requirements as stipulated in Section 9.2 of CSA Standard B149.6-11, "Code for Digester gas and Landfill Gas Installation".
- .5 Provide a "Two Year" warranty against cracking and delamination of the lining system.

1.4 SUBMITTALS

- .1 Provide Contract Administrator with manufacturer's literature for all products specified.
- .2 Submit name of the Approved Applicator and list of reference projects.
- .3 Submit name of manufacturer's technical representative who will be responsible for review of the surface preparation and lining application.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials to the site in an undamaged condition, with the manufacturer's wrappings and labels intact.
- .2 Store materials in a clean, dry area. Insure that materials remain dry and free of contaminants.

1.6 JOB CONDITIONS

- .1 Protect surrounding surfaces against damage due to work of this trade.
- .2 Maintain a minimum temperature at 40°F (4°C) during application and for a minimum of two days after installation.
- .3 Protect finished surface from accelerated drying.
- .4 Co-ordinate work of this section with the work of other trades.

Part 2 Products

2.1 MATERIALS

- .1 “CEM-KOTE Flex CR” flexible, chemical resistant, cementitious lining system as manufactured by Gemite Products Inc., Mississauga, Ontario, and distributed by W. R. Meadows of Canada, or approved equal in accordance with B7.
- .2 Reinforcing Fabric HD” reinforcement systems as manufactured by Gemite Products Inc., Mississauga, Ontario, and distributed by W. R. Meadows of Canada or approved equal in accordance with B7. Apply reinforcing fabric over cracks and construction joints as directed by the Contract Administrator at time of the liner application.

Part 3 Execution

3.1 INSPECTION

- .1 Engage manufacturer’s technical representative to inspect surfaces to which lining system is to be applied.
- .2 Proceed with work under this section only when surface defects (if any) have been entirely corrected to the manufacturer’s recommendation. Complete Form 105 – Certificate of Satisfactory Surface Preparation.
- .3 Starting work under this section means acceptance of the surface and previously prepared work.
- .4 Allow inspection cost in Tender Price. Minimum two visits per tank by the manufacturer’s technical representative are required.
- .5 Submit an Inspection Report to the Contract Administrator after successful and satisfactory completion of lining work. Completed Form 106 – Certification of Satisfactory Installation.

3.2 PREPARATION

- .1 High pressure water blasting or light sandblasting the concrete surfaces to remove all grease, oil and other bond inhibiting materials which penetrated into the concrete. Use compressed air and water to remove all remaining loose particles such as sand, laitance and dust. When using compressed air, the air stream must be free of oil.
- .2 Bridge all visible cracks and construction joints with reinforcing fabric.

- .3 Plan day's work to avoid cold joints. Treat the cold joint using the interlock method. In situations where the position of cold joint cannot be predicted, use an alternate method approved by the manufacturer.
- .4 When finishing at the cold joint, keep the other side of the joint as clean as possible. Use pressure water to wash the cold joint area before continuing the lining application.

3.3 PLACEMENT

- .1 Concrete or shotcrete must be cured for a minimum of 14 days prior to application of the lining.
- .2 Apply lining in accordance with manufacturer's written instructions.
- .3 The finish surfaces shall present a smooth finish to the satisfaction of the Contract Administrator. The Contractor shall prepare to grind or polish the coating system to achieve a desired finish as directed by the Contract Administrator.
- .4 Apply a minimum of 2 coats to achieve minimum thickness of 3 mm (1/8").

3.4 PROTECTION AND CURING

- .1 Extreme care shall be taken to apply waterproofing system in a hot and humid weather condition.
- .2 Cure and protect all surfaces as per manufacturer's specifications.

CERTIFICATE OF SATISFACTORY SURFACE PREPARATION

FORM 105

I have inspected the concrete surfaces to support the liner and have confirmed that the liner can be applied except as noted below. I have also instructed the installation contractor of the requirements for the liner application.

PROJECT:

ITEM OF EQUIPMENT:

**REFERENCE
SPECIFICATION:**

OUTSTANDING DEFECTS:

(Authorized Representative for Contractor)

Date

(Authorized Representative for Installation Contractor)

Date

(Authorized Representative for Manufacturer)

Date

CERTIFICATE OF SATISFACTORY INSTALLATION

FORM 106

I have completed my check and inspection of the installation listed below and confirm that it is satisfactory and that defects have been remedied to my satisfaction, except as noted below.

PROJECT:

ITEM OF EQUIPMENT:

**REFERENCE
SPECIFICATION:**

OUTSTANDING DEFECTS:

(Authorized Representative for Contractor)

Date

(Authorized Representative for Installation Contractor)

Date

(Authorized Representative for Manufacturer)

Date

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Shop priming:
 - .1 Structural steel: Section 05 12 23.
 - .2 Metal fabrications: Section 05 50 00.
 - .3 Cast-in-Place Concrete: Section 03 30 00.

1.2 REFERENCES

- .1 Master Painters Institute (MPI)
 - .1 Architectural Painting Specifications Manual.
- .2 Society for Protective Coatings (SSPC)
 - .1 Systems and Specifications Manual, SSPC Painting Manual, Volume Two.
- .3 Environmental Protection Agency (EPA)
 - .1 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).

1.3 QUALITY ASSURANCE

- .1 Contractor shall have a minimum of five years proven satisfactory experience. When requested, provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.
- .2 Qualified journeymen who have a "Tradesman Qualification Certificate of Proficiency" shall be engaged in painting work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with trade regulations.

1.4 PRODUCT DATA SUBMITTALS

- .1 Submit product data and manufacturer's installation/application instructions for each paint and coating product to be used in accordance with E4.
- .2 Upon completion, submit records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Color numbers.
 - .4 Manufacturer's Material Safety Data Sheet (MSDS).

1.5 QUALITY CONTROL

- .1 When requested by Contract Administrator, prepare and paint designated surface, area, room or item to the requirements specified herein.

1.6 DELIVERY, HANDLING AND STORAGE

- .1 Labels shall clearly indicate:
 - .1 Manufacturer's name and address.
 - .2 Type of paint or coating.
 - .3 Compliance with applicable standard.
 - .4 Color number in accordance with established color schedule.
- .2 Remove damaged, opened and rejected materials from site.
- .3 Provide and maintain dry, temperature controlled, secure storage.
- .4 Observe manufacturer's recommendations for storage and handling.
- .5 Store materials and supplies away from heat generating devices.
- .6 Store materials and equipment in a well ventilated area with temperature range 7°C to 30°C.
- .7 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
- .8 Remove paint materials from storage only in quantities required for same day use.
- .9 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.

1.7 SITE REQUIREMENTS

- .1 Heating, Ventilation and Lighting:
 - .1 Perform no painting work unless adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10 °C for 24 hours before, during and after paint application until paint has cured sufficiently.
 - .2 Perform no painting work when the maximum moisture content of the substrate exceeds:
 - .1 12% for concrete and masonry (clay and concrete brick/block).
 - .3 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple "cover patch test".

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility.
- .2 Set aside and protect surplus and uncontaminated finish materials: Deliver to or arrange collection by employees, individuals, or organizations for verifiable re-use or re-manufacturing.
- .3 Close and seal tightly partly used sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.

Part 2 Products

2.1 MATERIALS

- .1 Paint materials for paint systems shall be products of a single manufacturer.
- .2 Paints, coatings, adhesives, solvents, cleaners, lubricants, and other fluids, shall:
 - .1 be water-based water soluble water clean-up.
 - .2 be non-flammable biodegradable.
 - .3 be manufactured without compounds which contribute to ozone depletion in the upper atmosphere.
 - .4 be manufactured without compounds which contribute to smog in the lower atmosphere.
 - .5 do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.

2.2 COLORS

- .1 Selection of colors may be from several different manufacturers. Match color samples exactly regardless of manufacturer.
- .2 Allow for 25% of all painted surfaces to be deep to medium tone colors.
- .3 Second coat in a three coat system to be tinted slightly lighter color than top coat to show visible difference between coats.
- .4 Colors for site painted exterior steel components:
 - .1 Black: all steel components, except as specified below.

2.3 INTERIOR PAINTING SYSTEMS

- .1 Concrete Vertical and horizontal ceiling surfaces
 - .1 INT 3.1M - Institutional low odour/low VOC G5 finish premium grade.
 - .2 Locations: digester number 11 concrete walls, Galler number 5 ceilings
- .2 Structural Steel and Metal Fabrications: columns, beams, joists, etc.
 - .1 INT 5.1CC – Waterborned dry fall finish (over quick dry. shop primer).
 - .2 INT 5.1S - Institutional low odour/low VOC G5 finish premium grade.

Part 3 Execution

3.1 GENERAL

- .1 Perform preparation and operations for interior painting.
- .2 Apply paint materials in accordance with paint manufacturers' written application instructions.
- .3 Paint all work, except prefinished items or where indicated otherwise.

3.2 PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Contract Administrator.
- .2 Protect items that are permanently attached such as Fire Labels on doors and frames.

- .3 Protect factory finished products and equipment.

3.3 APPLICATION

- .1 Apply paint by brush, roller, air sprayer, airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Brush and Roller Application:
 - .1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
 - .2 Work paint into cracks, crevices and corners.
 - .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
 - .4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple unless approved by Project Administrator.
 - .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 Spray application:
 - .1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
 - .2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
 - .3 Apply paint in a uniform layer, with overlapping at edges of spray pattern.
 - .4 Brush out immediately all runs and sags.
 - .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
- .4 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .5 Sand and dust between coats to remove visible defects.
- .6 Doors and frames:
 - .1 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.
 - .2 Finish surfaces of doors and frames that will be concealed behind protective plates and coverings, door frame guards. Use same finish formula specified for visible portion of door.
 - .3 For exterior doors and frames indicated for painting/staining, use exterior quality paint/stain on both interior and exterior sides of door and frame.
- .7 Do not paint door and miscellaneous hardware, unless indicated otherwise.
- .8 Do not paint nameplates, signage, fire labels, or other markers or signs indicated to remain.
- .9 Do not paint copper, bronze, chromium plate, nickel, stainless steel, aluminum, lead and other bright metals, unless specified otherwise.
- .10 Clean shop applied paint surfaces that become marked. Touch up with primer and paint as required.

North End Water Pollution Control Centre
Rehabilitation of Digester 11
and Sludge Holding Tank No. 5 and 7
Bid Opportunity No. 573-2012

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END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM D610-[01], Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces.
 - .2 ASTM D2369-[03], Test Method for Volatile Content of Coatings.
 - .3 ASTM D2832-[92(R1999)], Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
 - .4 ASTM D5326-[94a(2002)], MPI-9 Test Method for Color Development in Tinted Latex Paints.
- .2 Master Painters' Institute (MPI), Exterior Structural Steel and Metal Fabrications, [03].
 - .1 EXT 5.1, Alkyd.
 - .2 EXT 5.1G, Zinc Rich/Aliphatic Polyurethane.
- .3 Steel Structures Painting Council (SSPC).
 - .1 SSPC-SP-6/NACE No. 3-[00], Commercial Blast Cleaning.
 - .2 SSPC-Vis-1-[89], Visual Standard for Abrasive Blast Cleaned Steel (Standard Reference Photographs) Editorial Changes September 1, 2000 (Steel Structures Painting Manual, Chapter 2 - Surface Preparation Specs.).
 - .3 SSPC-PA-[02], Measurement of Dry Coat Thickness with Magnetic Gauges.
 - .4 SSPC Good Painting Practices, Volume 1, 4th Edition.

1.3 MEASUREMENT PROCEDURES

- .1 Cleaning of structural steel, pipes and components, and field painting will be included in lump sum bid for painting of steel.
- .2 Cleaning and preparation of structural steel and components, supply of paint, application of paint and incidental work will be measured as one lump sum included in lump sum bid for painting.

1.4 SUBMITTALS

- .1 Product Data
 - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's for paint.

- .2 Samples
 - .1 Submit samples in accordance with Section 01 33 00 – Submittals.
 - .2 Upon request Contract Administrator to furnish qualified products list of paints.
- .3 Paints that do not appear on MPI Approved Products List must be approved by Contract Administrator before use on project. Refer to submittals above.
- .4 Enable Contract Administrator to take two [2] 250 mL samples of each paint delivered to site, one sample from manufacturer's containers and one sample from painters' pot.
- .5 Test Reports.
 - .1 Submit test reports in accordance with Section 01 33 00 – Submittals.
- .6 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- .1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 11 – Cleaning.
- .2 Divert unused coating materials from landfill through disposal at a special wastes depot.

Part 2 Products

2.1 MATERIALS

- .1 Paint.
 - .1 Primer: MPI EXT 5.1C, primer, marine for steel.
 - .1 Primer for second coat: tinted sufficiently off finish colour of first coat to show where second coat is applied.
 - .2 Tinting material: compatible with primer and not detrimental to its service life.
 - .2 Enamel: MPI EXT 5.1G, enamel, alkyd, marine, exterior; first coat grey, colour by Contract Administrator; second coat colour by Contract Administrator. If majority of paint application is to be by brushing, use paint to MPI EXT 5.1D.
 - .3 Sand for sandblasting: to SSPC (Steel Structures Painting Council).

2.2 PAINTED EXTERIOR ITEMS

- .1 The following items are to be painted:
 - .1 Wind shroud structural steel
 - .2 100 mm diameter waste gas pipe

- .3 12 mm diameter flame retention pipe
- .4 50 mm diameter continuous flame pipe
- .5 25 mm diameter natural gas supply pipe and vent pipe
- .6 Flare pipe supports
- .7 25 mm diameter drip trap vent pipe

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 SITE EXAMINATION

- .1 Precaution should be taken when removing loose and rusted existing paint from metal surfaces.
- .2 Tests should be carried out to determine existence of lead base paint.
- .3 If lead exists stop work and report findings to Contract Administrator.

3.3 PREPARATION

- .1 New metal surfaces.
 - .1 Clean surfaces of new metal to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and foreign substances in accordance with the following:
 - .1 Commercial blast cleaning: SSPC-SP-6 (Steel Structures Painting Council).
 - .2 Brush-off blast cleaning: SSPC-SP-7.
 - .2 Metal surfaces to be repainted.
 - .1 Clean surfaces by removing loose, cracked, brittle or non-adherent paint, rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with following.
 - .1 Commercial blast cleaning: SSPC-SP-6.
 - .2 Commercial blast clean rusted and bare metal surfaces where existing paint system has failed.
 - .3 Brush-off blast clean remaining metal surfaces to be painted.
 - .4 Scrape edges of old paint back to sound material where remaining paint is thick and sound, feather exposed edges.
- .3 Compressed air to be free of water and oil before reaching nozzle.

- .4 Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes, by blowing with clean dry compressed air, or by vacuum cleaning.
- .5 Do not apply paint until prepared surfaces have been accepted by Contract Administrator.
 - .1 Arrange inspection time of prepare surfaces with Contract Administrator.
- .6 Prior to commencing paint application the degree of cleanliness of surfaces to be in accordance with SSPC-Vis1.
- .7 Protection of surfaces.
 - .1 Protect surfaces not to be painted and if damaged, clean and restore such surfaces as directed by Contract Administrator.
 - .2 Apply primer, paint, or pre-treatments after surface has been cleaned and before deterioration of surface occurs.
 - .3 Do not apply paint at humidity's above what is recommended by the paint manufacturer.
 - .4 Clean surfaces again if rusting occurs after completion of surface preparation.
 - .5 Prevent contamination of cleaned surfaces by salts, acids, alkalis, corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats of paint. Remove contaminants from surface and apply paint immediately.
 - .6 Protect cleaned and freshly painted surfaces from dust.
- .8 Mixing paint.
 - .1 Do not dilute or thin paint for brush application; use as received from manufacturer.
 - .2 Mix ingredients in container before and during use and ensure breaking up of lumps, complete dispersion of settled pigment, and uniform composition.
 - .3 Do not mix or keep paint in suspension by means of air bubbling through paint.
 - .4 Thin paint for spraying according to manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Contract Administrator.
- .9 Number of paint coats.
 - .1 New metal surfaces:
 - .1 Shop: Two primer coats to minimum dry film thickness of 35 microns per coat.
 - .2 Field: Two alkyd enamel coats to minimum dry film thickness of 25 microns per coat.
 - .2 Re-painting existing metal surfaces:
 - .1 One primer coat to minimum dry film thickness of 35 microns to bare and commercial sand blasted areas.
 - .2 Two alkyd enamel coats to minimum dry film thickness of 25 microns per coat.

3.4 APPLICATION

- .1 Apply paint by spraying, brushing, or combination of both. Use sheepskins or daubers when no other method is practical in places of difficult access.
- .2 Use dipping or roller coating method of application when specifically authorized by Contact Administrator in writing.
- .3 Caulk open seams at contact surfaces of built up members with material approved by Contract Administrator, before second undercoat of primer is applied.
- .4 Where surface to be painted is not under cover, do not apply paint when:
 - .1 Air temperature is below 5 degrees C or when temperature is expected to drop to 0 degrees C before paint has dried.
 - .2 Temperature of surface is over 50 degrees C unless paint is specifically formulated for application at high temperatures.
 - .3 Fog or mist occur at site; it is raining or snowing; there is danger of rain or snow; relative humidity is above 85%.
 - .4 Surface to be painted is wet, damp or frosted.
 - .5 Previous coat is not dry.
- .5 Provide cover when paint must be applied in damp or cold weather. Protect, shelter, or heat surface and surrounding air to comply with temperature and humidity conditions specified in 3.2.4. Protect until paint is dry or until weather conditions are suitable.
- .6 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.
- .7 Apply each coat of paint as continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .8 Brush application
 - .1 Work paint into cracks, crevices and corners and paint surfaces not accessible to brushes by spray, daubers or sheepskins.
 - .2 Brush out runs and sags.
 - .3 Remove runs, sags and brush marks from finished work and repaint.
- .9 Spray application
 - .1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
 - .2 Provide traps or separators to remove oil and water from compressed air and drain periodically during operations.
 - .3 Keep paint ingredients properly mixed in spray pots or containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
 - .4 Apply paint in uniform layer, with overlapping at edges of spray pattern.

- .5 Brush out immediately runs and sags.
 - .6 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray. In areas not accessible to spray gun, use brushes, daubers or sheepskins.
 - .7 Remove runs, sags and brush marks from finished work and repaint.
- .10 Shop painting
- .1 Do shop painting after fabrication and before damage to surface occurs from weather or other exposure.
 - .2 Spray paint contact surfaces of field assembled, bolted, friction type joints with primer coat only. Do not brush primer after spraying.
 - .3 Do not paint metal surfaces which are to be embedded in concrete.
 - .4 Paint metal surfaces to be in contact with wood with either full paint coats specified or three shop coats of specified primer.
 - .5 Do not paint metal within 50 mm of edge to be welded. Give unprotected steel one coat of boiled linseed oil or other approved equal primer in accordance with B7 after shop fabrication is completed.
 - .6 Remove weld spatter before painting. Remove weld slag and flux by methods as specified in paragraph 3.1.2 Metal Surfaces to be Repainted.
 - .7 Protect machine finished or similar surfaces that are not to be painted but that do require protection, with coating of rust inhibitive petroleum, molybdenum disulphide, or other coating approved by Contract Administrator.
 - .8 Copy previous erection marks and weight marks on areas that have been shop painted.
- .11 Field painting
- .1 Paint steel structures as soon as practical after erection.
 - .2 Touch up metal which has been shop coated with same type of paint and to same thickness as shop coat. This touch-up to include cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas.
 - .3 Field paint surfaces (other than joint contact surfaces) which are accessible before erection but which are not to be accessible after erection.
 - .4 Do not apply final coat of paint until concrete work is completed, except as directed by Contract Administrator. If concreting or other operations damage paint, clean and repaint damaged area. Remove concrete spatter and droppings before paint is applied.
 - .5 Where painting does not meet with requirements of specifications, and when so directed by Contract Administrator remove defective paint, thoroughly clean affected surfaces and repaint in accordance with these specifications.
- .12 Handling painted metal
- .1 Do not handle painted metal until paint has dried, except for necessary handling for painting or stacking for drying.
 - .2 Scrape off and touch up paint which is damaged in handling, with same number of coats and kinds of paint as were previously applied to metal.

3.5 FIELD QUALITY CONTROL

- .1 Site Tests, Inspections
 - .1 Upon completion of the painting procedures test for dry film reading and evaluate the results as per SSPC PA 2.

3.6 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION