



Structural Steel Coatings – Painting Galvanized Surfaces

Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	12-08-2022	Original Issue	Richard Foley

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Background

This process establishes Structure Construction (SC) responsibilities and procedures for preparation and painting of galvanized metal surfaces.

This process is in addition to general activities for structural steel coatings and galvanizing described in:

1. [BCM 59-1](#), *Structural Steel Coatings – General*
2. [Contract Specifications](#):
 - a. Section 59-4, *Structural Steel Coatings – Painting Sign Structures*
 - b. Section 75-1.02B, *Miscellaneous Metal – General – Materials –Galvanizing*
 - c. Section 91-2.02, *Paint – Paint for Metal – Materials*, for potential coating standards.

Prior to reviewing this Bridge Construction Memorandum (BCM), it is essential to review the [Contract Specifications](#), Section 59-3, *Structural Steel Coatings – Painting Galvanized Surfaces*, that this BCM is based on as identified in the title block above. The information in the *Contract Specifications* typically will not be repeated in the text of this BCM.

Process Inputs

Authorized submittals per *Contract Specifications*, Section 59-1.01C, *Structural Steel Coatings – General – Submittals*.

Procedure

1. All work associated with this process is charged as [Project Direct – Construction](#).
2. Inspection of field work for this process is:
 - a. [Intermittent](#) for preparation and painting of galvanized steel surfaces.
3. Before construction begins:
 - a. Review the [contract documents](#) for requirements pertaining to:
 - i. Painting structural steel
 - ii. Painting galvanized surfaces
 - iii. Specified paint system including paint color
 - iv. Painting sign structures
 - b. Review *Construction Manual*, [Chapter 4-59](#), *Structural Steel Coatings*.
 - c. Consult with the Materials Engineering & Testing Services Representative ([METS Rep](#)) for questions related to surface preparation and coatings application requirements.
 - d. Attend a prepainting meeting with the METS Rep, the Contractor, and all painting sub-contractors as necessary.
 - e. Arrange with the Bridge Construction Engineer (BCE) to complete:
 - i. SC's training course # 101059, *Contract Administration of Field Clean & Paint Steel*, which is provided on demand.
 1. If the training is not available, review the course material on the SC Intranet under the [Training tab](#).
 - ii. Mandated safety training as applicable, which may include: respirator, confined space, and fall protection training.
 - f. Obtain testing equipment from the SC Paint Kit which includes dry film thickness (DFT) gauge, surface temperature gauge, hygrometer or sling psychrometer.
 - g. Consult with the Resident Engineer (RE) regarding issues related to the control of wash or steam cleaning water, and other environmental requirements.
 - h. Review applicable authorized submittals per:
 - i. BCM 59-1, *Structural Steel Coatings – General*
 - ii. [BCM 56-2.01C](#), *Overhead Sign Structures, Standards, and Poles – Overhead Sign Structures – General – Submittals*

- i. For the State Specification PWB-174A paint system, review the specifications provided on the METS [Bridge Paint and Pavement Striping Paints](#) link.
 - j. Review coating manufacturer's guidelines and recommendations for surface preparation, painting, drying, and curing and compare to the requirements in the *Contract Specifications*.
 - k. Review [Society for Protective Coatings](#) (SSPC as referenced in the product guidelines, and as applicable for surface preparation and coatings application).
 - l. Coordinate with the Contractor to implement protective measures that minimize damage (accidental paint) to adjacent concrete surfaces or other surfaces and properties not designated for painting (e.g., drop cloths, screens/barriers, overhead tarps, etc.).
 - m. Review personal protective equipment (PPE) requirements and safety hazards associated with the painting operation. Inspection may require:
 - i. Fall protection when working on elevated surfaces or manlifts.
 - ii. Dust masks/ respirators for incidental exposure to airborne hazards resulting from the operations.
4. During construction:
- a. Verify that shop coated materials arriving at the jobsite have been inspected by METS per [Form TL-6042](#), *Coating Inspection Report*. If the painted or galvanized surface is damaged (flaking, peeling, rusting, pitting, etc.):
 - i. Notify the Contractor in writing that the damaged surfaces are rejected and request a repair plan adhering to *Contract Specifications*, Section 75-1.02B, *Miscellaneous Metal – General – Materials – Galvanizing*.
 - ii. Verify the damaged galvanized surface is repaired per authorized repair plan.
 - iii. If satisfactory field repair is difficult or cannot be achieved, consult with the METS Rep.
 - b. For materials painted at the job site:
 - i. Review the project Storm Water Pollution Prevention Plan or Water Pollution Control Program and verify that it includes measures to address the cleaning and painting process.
 - ii. Verify if containment systems or ventilated work areas are required.
 - iii. Verify if scaffolding or other work platforms will be utilized. Review safety precautions for use, including daily inspections.

- iv. Inspect galvanized surfaces for defects or damage and verify repairs are performed per the *Contract Specifications*, Section 75-1.02B, *Miscellaneous Metal – General – Materials – Galvanizing*.
 - v. Verify procedures for surface preparation, paint application, drying, and curing are performed in accordance with the requirements of the contract documents, *State Specification*, authorized submittals, and manufacturer's recommendations.
 - 1. Per CS, Section 6-2.01, *Control of Materials – Quality Assurance – General*, obtain the *State Specification* referenced in CS, Section 59-3.02, *Structural Steel Coatings – Painting Galvanized Surfaces – Materials*, from METS.
 - 2. Verify that the 2nd finish coat color matches the required color in the *Contract Specifications*.
 - vi. Perform timely inspections including verification of safely executed operations, obtaining and verifying contractor quality control test results, performing Quality Assurance (QA) testing, and accepting or rejecting work.
 - vii. Obtain and evaluate METS and Assistant Structure Representative's QA test results.
 - viii. Issue formal notification of rejection for failed tests and request a remediation plan for review and authorization.
- c. Document all inspection, construction, and quality assurance activities, pertinent to this BCM, in the daily reports per [BCM C-7](#), *Daily and Weekly Reports*.
5. Following construction:
- a. Complete required documents and forward to SC Headquarters as applicable:
 - i. [Form SC-6305](#), *Paint Record*
 - ii. [Form SC-6302](#), *Clean and Paint Cost Summary*
 - b. Document paint information on the as-built project plans; reference BCM 59-2, [Attachment 1](#), *Cleaning and Painting of Structural Steel*.
6. File all test results and daily reports in the appropriate category in the project records as specified in the *Construction Manual*, [Section 5-102](#), *Organization of Project Documents* and Section 1-25, *Control of Materials – Quality Assurance of Attachment 2*, *SC Staff Responsibilities for Performing Standard Construction Activities*, of BCM A-1.

Process Outputs

1. Daily reports
2. Completed Form SC-6302, *Clean and Paint Cost Summary* and Form SC-6305, *Paint Record*
3. Properly painted galvanized surfaces

Attachments

None