

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION 883**

FIELD METALLIZING OF STRUCTURAL STEEL WITH WARRANTY

August 10, 2007

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883.01 Description. This item consists of furnishing all necessary labor, materials, and equipment to clean, prepare and metallize all structural steel surfaces, as specified in the most current version of the Supplemental Specification 845, or as amended, and also unconditionally warrant the metallizing applied to the structural steel to be free of defects as defined in 883.03. Acceptance by the Engineer of any portion of the work during the original cleaning and metallizing will not relieve the Contractor of the requirements of the warranty.

883.02 Warranty Maintenance Bond. Provide the Department with the performance and payment bonds specified in section 103.05, or as amended, and furnish a three (3) year warranty maintenance bond equal to 60 percent of the total price for Item “883 Field Metallizing of Structural Steel, with Warranty” and 60 percent of the total price for Item “883 Surface Preparation of Structural Steel, with Warranty”.

The Surety that underwrites the maintenance bond is required to have an A.M. best rating of “A-” or better. Include the cost of the maintenance bond in Item “883 Field Metallizing of Structural Steel, with Warranty” and Item “883 Surface Preparation of Structural Steel, with Warranty”. The effective date of the maintenance bond is the date the Department’s Form C-85 is issued for all metallizing items on the project. After the C-85 is issued, the Department will notify the Surety of the official start date for the warranty bond and the project will be finalized using standard procedures. The maintenance bond expires after three (3) years from the issuance of the C-85 if no corrective work is required or after completion of the Contractor’s corrective work and approval by the Department.

The Contractor maintains the liability insurance specified in 107.12, or as amended, covering any Contractor or Contractor authorized operations, persons, and equipment while any corrective work, or any warranty inspection is being performed.

883.03 Warranty Items Coverage. Warrant the entirety of the structural steel metallizing and surface preparation against the following defects for the duration of the warranty period.

1. The occurrence of visible rust or rust breakthrough, peeling, coating debonding or un-removed slivers.
2. Metallizing over dirt, debris, blasting debris, or rust products not removed during blast cleaning.
3. Material deficiencies, application deficiencies, incomplete coatings, or coating thicknesses outside the thickness limits specified in the contract documents.
4. Damage to the coating caused by the Contractor while removing scaffolding, forms, or performing other work.

The defects will initially be determined by visual inspection. If the visual inspection reveals a defective condition, destructive and non-destructive testing may be utilized to determine the extent of the defect.

Meeting the minimum requirements and guidelines of the applicable specification are not to be construed as a warranty, expressed or implied, as to the materials properties and workmanship efforts required to meet the performance criteria. The intent of this contract is for the Contractor to provide a maintenance free metallized structural steel.

Exclusions to the warranty will be damage to the coating resulting from vehicle damage, fire, or other damage not caused by the Contractor or subcontractor.

883.04 Traffic Control. Provide traffic control for all inspections and corrective work. The Contractor's traffic control plan for performing any work required by this specification during the warranty period shall be in accordance with current Department policy and the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways. Submit this traffic control plan to the District Construction Engineer (DCE) for approval before any work is performed.

883.05 Annual Warranty and Final Warranty Inspections. The Department will perform two (2) Annual Inspections of the warranted items beginning no later than 1 year after the issuance of the C-85 for all structural steel metallizing and surface preparation items on the project. The Department will then perform the Final Warranty Inspection during the month before the end of the specified warranty period.

For each Annual Warranty Inspection and the Final Warranty Inspection, the Engineer will inspect the bridge thoroughly for the structural steel metallizing defect conditions listed. The inspections will be performed jointly by ODOT personnel and the Contractor. Furnish OSHA approved, vehicle-mounted inspection equipment for all warranty inspections suitable to provide access to all areas of the structure. The Engineer will determine defective areas for repair as per section 883.03 and define those areas.

883.06 Remedial Action. Repair all defective areas identified at anytime by the Engineer during the warranty period in accordance with the repair procedures contained in the most current version of Supplemental Specification 845, or as amended. Submit a progress schedule

and remedial action plan in writing to the Engineer prior to any corrective work. Identify the means and methods, materials, and timeline for the remedial action. Warrant the remedial action work for the remainder of the warranty period. Obtain the Engineer's acceptance of the plan, schedule, and all materials prior to performing remedial action work.

Perform corrective work for all structural steel metallizing and surface preparation during the same season as the inspection. Repair any additional defective areas that appear between the time of inspection and the actual performance of the corrective work. Notify the Engineer at least two weeks before beginning the corrective work and allow full inspection of all operations as per the most current version Supplemental Specification 845, or as amended.

883.07 Appeal Process. The Contractor may appeal the findings of the Department. Submit any appeal to the DCE, in writing, within fifteen (15) calendar days after the Engineer has given the written results to the Contractor. The DCE will evaluate the Contractor's appeal. Within forty-five (45) calendar days after receiving the Contractor's appeal, the DCE will inform the Contractor, in writing, of the Department's determination.

If the Contractor disagrees with the Department's determination, the Contractor may appeal the determination at Step 3 of the most current version of Proposal Note 109 entitled Dispute Resolution and Administrative Claims Process, or as amended.

883.08 Method of Measurement. The Department will measure Surface Preparation of Structural Steel, with Warranty and Field Metallizing of Structural Steel, with Warranty by the number of square feet (square meters) of structural steel metallized or on a lump sum basis.

For steel rolled beam and steel girder bridges, the Department will determine the surface area by taking a nominal measurement of the beams (i.e., two times the beam depth plus three times the flange width). In addition to this nominal measurement, the Department will add a percentage to account for incidentals such as cross frames, bearing assemblies, stiffeners, expansion joints, scuppers, etc. It is not necessary for the Engineer or Inspector to field measure every detail of the bridge to verify quantities. If there is a quantity dispute, exact field measurements of all metallized surfaces and calculations will govern over the above percentage to account for incidentals.

For extremely complex bridges, such as trusses, the Department will pay for surface preparation and metallizing on a lump sum basis.

The Department will measure grinding fins, tears, slivers on existing structural steel by the number of man hours expended by the workers actually doing work and will include the time when the workers are performing grinding and reprofiling (i.e., the Department will include all hours of the workers when assigned to this work regardless of actual grinding time).

883.09 Basis of Payment. The Department may consider metallizing wire as eligible for payment for material on-hand as specified in 109.10, however, only wire that the Contractor can prove to the Engineer will be used during the construction season is eligible for payment. The Contractor will provide the Engineer calculations indicating the total square feet (square meter)

of steel to be coated during the construction season. The Contractor will also provide calculations showing the weight of wire (pounds) required.

If the Contractor causes damage or injury to public or private property, the Department will not pay for restoring the property to its original condition.

The Department will not pay for the following:

- A. Repairing adjacent coatings damaged during the blasting or metallizing operations.
- B. Repairing areas of coating because of low coating thickness, low adhesion values or failing cut tests.
- C. Additional testing required by any hauler, treatment facility, disposal facility or landfill.
- D. Accessing, inspecting, and repairing areas that are found to be in non-conformance with the specifications and pertinent contract documents.

If welding is required for Supplemental Specification 845.13.D, the Department will pay for this welding repair as extra work according to 109.05

All other requirements of this specification are considered incidental to the work.

The Department will pay for accepted quantities at the Contract prices as follows:

Item	Unit	Description
883	Square Foot (Square Meter) Lump Sum	Surface Preparation of Structural Steel, with Warranty
883	Square Foot (Square Meter) Lump Sum	Field Metallizing of Structural Steel, with Warranty
883	Man Hour	Grinding Fins, Tears, Slivers on Structural Steel

Designer Notes:

Include all pay items.

SS845.14 specifies metallizing to all structural steel; scuppers; expansion joints except for the traveled surface; steel railing; exposed steel piling; drain troughs; and other areas to the contract limits. Carefully review these areas that are to be metallized and show the limits of the contract work.

Show plan limits for areas that will need the metallizing 12 mils thick as specified in SS845.14. Suggested areas are as follows: all steel within 10 feet of any expansion joint devise or internal hinge assembly. All steel in the potential splash zone of a scupper, all exterior and bottom flange surfaces on bridges with over the side drainage. Fracture critical members or critical structural members that would benefit from additional corrosion protection. Areas that collect debris or have exhibited more aggressive patterns of corrosion as determined from inspection records.

When estimating the quantity for Item 883 Surface Preparation of Structural Steel, with Warranty, calculate the area to be metallized according to 883.08.

When estimating the quantity for Item 883, Grinding Fins, Tears, Slivers on Structural Steel, provide 1 minute for each linear foot of beam/girder to be coated.

When estimating the quantity for Item 883 Field Metallizing of Structural Steel, with Warranty, calculate the area to be metallized according to 883.08.