

SPECIFICATIONS FOR FIELD PAINTING1071. 1. DESCRIPTION

The work will consist of the preparation of all miscellaneous metal and structural steel surfaces, the priming of bare spots and scratches on the shop coat of paint or galvanized surfaces; the application, protection and drying of the paint coating; the protection of pedestrian, vehicular or other traffic upon or underneath the bridge structure; the protection of all portions of private or public properties and bridge structure (superstructure and substructure) against disfigurement by spatters and splashes of paint or paint materials.

1071. 3. SUPPLY OF MATERIALS

Material to be supplied by the Minister at the sources of supply specified in the Special Provisions

Type II Maroon Primer
Cleaning solution for galvanized surfaces
Primer for galvanized surfaces
Paint for field coat

1071. 7. CONSTRUCTION METHODS

7.1 Cleaning Surfaces

The surfaces to be painted shall be cleaned thoroughly of rust, scale, dirt, oil, grease, and all other foreign substances. The removal of rust, scale and dirt shall be done by use of metal brushes, scrapers, chisels, hammers or other effective means, as directed by the Engineer. Oil and grease may be removed by the use of gasoline or solvents and the galvanized surfaces shall be cleaned with the solution provided by the Department for that purpose. This final cleaning of the galvanized surfaces shall be done prior to the application of the "primer for galvanized surfaces".

If, in the estimation of the Engineer, traffic produces an objectionable amount of dust, the Contractor shall, at his own expense, take all precautions necessary to prevent dust and dirt from coming in contact with freshly painted surfaces or with cleaned surfaces before the paint is applied.

Dust control and other necessary precautions shall be maintained until the paint is dry.

7.2 Number of Coats

Unless otherwise provided in the Special Provisions or shown on the plans, all the metal, after having been cleaned and primed, shall be painted with one complete coat of paint, except as follows:

- (a) sliding contact surfaces of expansion bearings shall be left unpainted;
- (b) galvanized surfaces shall be painted with one complete coat of the "primer for galvanized surfaces" in addition to one complete coat of paint.

1071. 7. CONSTRUCTION METHODS (Cont'd)

7.3 Weather Conditions

Painting shall not be done in damp or foggy weather or at any time when the temperature of the steelwork is below 5⁰ C. Paint shall not be applied on damp surfaces, or on metal which is so hot as to cause the paint to blister or to produce a porous paint film. Paint shall not be applied, if in the estimation of the Engineer, exceptionally dusty conditions exist. Spraying machines will not be allowed in exceptionally windy weather.

7.4 Mixing Plant

The paint supplied by the Minister shall be mixed thoroughly by mechanical means or as otherwise permitted by the Engineer before being removed from the containers and kept mixed during the period of application to keep the pigments in uniform suspension.

7.5 Thinning

Thinning of the paint, if necessary, shall be done by heating in hot water or on steam radiators. No thinners shall be added to field paint except when approved by the Engineer. The Type II Maroon Primer may be reduced, if necessary, with not more than 125 mL of mineral spirits per Litre of primer for spraying purposes.

7.6 Application

As soon as the cleaning is done, the heads of field rivets and bolts, all surfaces from which the shop coat of paint has been worn or scratched off or which is otherwise defective, and all shipping and erection marks shall be covered with one coat of Type II Maroon Primer. The primer shall be allowed to dry before the paint coat is applied.

All unpainted surfaces shall be covered with two coats of Type II Maroon Primer immediately after cleaning and before the application of the paint coat. Every coat of primer shall be allowed to dry before the application of the second coat of primer and the paint coat.

All galvanized surfaces shall be covered with one coat of special primer. This primer shall be allowed to dry before the paint is applied.

Paint and primers may be applied either with brushes or by means of spraying machines except for the steel guardrail which shall be hand painted. All painting shall be done in a neat and workmanlike manner. The field coat of paint shall be applied so that a dry film thickness of 25 to 38 um is obtained. No portion of the paint film shall be less than this specified thickness.

The paint shall be manipulated under the brush to produce a uniform, even coating in close contact with the metal or with previously applied coatings. In general, the primary movement of the brush shall describe a series of small circles to fill thoroughly all irregularities in the surface after which the coating shall be smoothed and thinned by a series of parallel strokes. On all surfaces which are inaccessible for brushes and where spraying is not being employed, the paint shall be applied with daubers available for the purpose.

1071. 7. CONSTRUCTION METHODS (Cont'd)

7.6 Application (Cont'd)

Spray paint equipment shall be of ample capacity for the work and shall at all times be kept clean and in good working order. Spray guns shall be suited to the type of paint specified and shall be operated with orifices, nozzles and air pressure suited to this paint and its consistency. Paint pots shall be of ample capacity and shall be equipped with means of controlling air pressure on the pot independently of the pressure of the gun. Air lines shall be equipped with water traps to remove positively any condensed moisture. If satisfactory work is not obtained with spray equipment, the use of such equipment may be prohibited and brushing may be required.

The Contractor shall ensure that the concrete surfaces are not damaged or disfigured by paint. Should the Contractor's method of operations be such as to cause disfigurement of exposed concrete surfaces, the Contractor shall cover and protect adjacent concrete surfaces to the approval of the Engineer.

7.7 Removing Unsatisfactory Paint

If the painting is unsatisfactory to the Engineer, the defective paint shall be removed and the metal shall be cleaned and repainted, at the Contractor's expense.

7.8 Contractor's Responsibility

The Contractor shall assume full responsibility for all damage or disfigurement caused to private or public properties during the painting operations.

7.9 Scaffolding

The scaffolding shall be constructed to permit at all times a safe access to the inspection by the Engineer of all work areas.

1071. 9. METHOD OF MEASUREMENT

The quantity of steel painted will be measured on a mass basis. The mass paid for will be estimated from the approved plans, using the nominal mass for the structural shapes, plates and miscellaneous metals, as given in recognized handbooks.

No allowance will be made for copes, cuts, overrun-in-scale mass, erection bolts, excess field rivets, or similar items, and no allowance will be made for the mass of any paint, galvanizing material or other protective coatings or for the mass of any deposited weld metal used either for shop or field welding, all of which will be considered as completely covered by the Contract Unit Price for "Field Painting".

The mass shall be estimated to the nearest 1/10 of a tonne.

1071. 11. BASIS OF PAVEMENT

Field Painting will be paid for at the Contract Unit Price per tonne for "Field Painting", measured as specified herein, which price will be payment in full for performing all operations herein described and all other items incidental to the work included in this Specification.