

When scaffolding, or the hangers attached to the scaffolding are supported by horizontal wire ropes, or when scaffolding is placed directly under the surface to be painted, the following requirements shall be complied with:

A. When scaffolding is suspended 43 inches (1092 mm) or more below the surface to be painted, two guardrails shall be placed on all sides of the scaffolding. One guardrail shall be placed at 42 inches (1067 mm) above the scaffolding and the other guardrail at 20 inches (508 mm) above the scaffolding.

B. When the scaffolding is suspended at least 21 inches (533 mm) but less than 43 inches (1092 mm) below the surface to be painted, one guardrail shall be placed on all sides of the scaffolding at 20 inches (508 mm) above the scaffolding.

C. Two guardrails shall be placed on all sides of scaffolding not previously mentioned. The guardrails shall be placed at 42 inches (1067 mm) and 20 inches (508 mm) above scaffolding, as previously mentioned.

D. All scaffolding must be at least 24 inches (610 mm) wide when guardrail is used and 28 inches (711 mm) wide when the scaffolding is suspended less than 21 inches (533 mm) below the surface to be painted and guardrail is not used. If 2 or more scaffolding are laid parallel to achieve the proper width, they must be rigidly attached to each other to preclude any differential movement.

E. All guardrail shall be constructed as a substantial barrier which is securely fastened in place and is free from protruding objects such as nails, screws and bolts. There shall be an opening in the guardrail, properly located, to allow the Inspector access onto the scaffolding.

F. The rails and uprights shall be either metal or wood. If pipe railing is used, the railing shall have a nominal diameter of no less than 1.5 inches (38 mm). If structural steel railing is used, the rails shall be 2x2x3/8 inch (50x50x9 mm) steel angles or other metal shapes of equal or greater strength. If wood railing is used, the railing shall be 2x4 inches (50x100 mm) (nominal) stock. All uprights shall be spaced at no more than 8 feet (2.4 m) on center. If wood uprights are used, the uprights shall be 2x4 inches (50x100 mm) (nominal) stock.

G. When the surface to be inspected is more than 15 feet (4.57 m) above the ground or water, and the scaffolding is supported from the structure being painted, the Contractor shall provide the Inspector with a safety harness (not a safety belt) and lifeline. The lifeline shall not allow a fall greater than 6 feet (1.8 m). The Contractor shall provide a method of attaching the lifeline to the structure independent of the scaffolding, cables, or brackets supporting the scaffolding.

H. When scaffolding is more than 2.5 feet (762 mm) above the ground, the Contractor shall provide a ladder for access onto the scaffolding. The ladder and any equipment used to attach the ladder to the structure shall be capable of supporting 250 pounds (113 kg) with a safety factor of at least four. All rungs, steps, cleats, or treads shall have uniform spacing and shall not exceed 12 inches (305 mm) on center. At least one side rail shall extend at least 36 inches (914 mm) above the landing near the top of the ladder.

I. An additional landing shall be required when the distance from the ladder to the point where the scaffolding may be accessed, exceeds 12 inches (305 mm). The landing shall be a minimum of at least 24 inches (610 mm) wide and 24 inches (610 mm) long. It shall also be of adequate size and shape so that the distance from the landing to the point where the scaffolding is accessed does not exceed 12 inches (305 mm). The landing shall be rigid and firmly attached to the ladder; however, it shall not be supported by the ladder. The scaffolding shall be capable of supporting a minimum of 1000 pounds (454 kg).

J. In addition to the aforementioned requirements, the Contractor shall be responsible to observe and comply with all Federal, State and local laws, ordinances, regulations, orders and decrees.

K. The Contractor shall furnish all necessary traffic control to permit inspection during and after all phases of the project.

**815.12 PROTECTION OF PERSONS AND PROPERTY.** The Contractor shall collect, remove and dispose of all buckets, rags or other discarded materials and shall leave the job site in a clean condition.

The Contractor shall protect all portions of the structure, which are not to be painted, against damage or disfigurement by splashes, spatters, and smirches of paint. Deck bottoms and backwalls are exempt from this requirement.

When or where any direct or indirect damage or injury is done to public or private property, the Contractor shall restore, at his own expense, such property, to a condition similar or equal to that existing before such damage or injury was done.

**815.13 POLLUTION CONTROL** The Contractor shall take all necessary precautions to comply with pollution control laws, rules or regulations of Federal, State or local agencies and as required in this specification.

**815.14 WORK LIMITATIONS.** Abrasive blasting and painting shall be done between April 1 and October 31. Even though the Contractor is permitted to work prior to May 1, April is considered a winter month and no extension due to adverse weather conditions will be granted for this period. Additional work limitations on specific bridges/projects may be required by plan note.

**815.15 METHOD OF MEASUREMENT.** Field painting of structural steel is based on a square meter (square foot) pay item. All field painting will include 3 coats of paint; prime coat, intermediate coat, and finish coat. Caulking is not measured separately but is included with the intermediate coat for payment

On steel beam and steel girder bridges, the surface area is based on a nominal measurement of the beams; ie. 2 times the beam depth plus 3 times the flange width. In addition to this nominal measurement, a percentage is added to account for incidentals such as cross frames, bearing assemblies, stiffeners, expansion joints, scuppers, etc. Thus, it is not necessary for the Inspector to field measure every detail of the bridge to verify quantities. Some extremely complex bridges, such as trusses, will be paid for as lump sum. In the case of a quantity dispute, exact field measurements of all painted surfaces and/or calculations will govern.

Grinding fins, tears, slivers is based on the manhours expended only by the workmen who are actually doing the grinding and will include all the time when the workmen are performing grinding and repairing prime coat and not limited to the actual grinding duration (ie. all hours of the workmen when assigned to grinding regardless of actual grinding time).

Surface Preparation: This lump sum or m<sup>2</sup> (square feet) item includes all labor, materials and equipment necessary to: contain, collect, store, evaluate, ship, treat and dispose of all waste materials generated by this project, grind flange edges, and prepare the surface as required by these specifications, prior to applying the prime coat.

**815.16 BASIS OF PAYMENT.** Payment for field painting will be made at the contract prices for:

Item	Unit	Description
815	Square foot (square meter) lump sum	Surface preparation of existing steel, System OZEU
815	Square foot (square meter) lump sum	Field painting of existing steel, prime coat, System OZEU
815	Square foot (square meter), Lump sum	Field Painting of existing steel, Intermediate coat, System OZEU
815	Square foot (square meter) Lump sum	Field Painting of existing steel, Finish coat, System OZEU
815	Man Hour	Grinding Fins, Tears, Slivers