

ITEM 18570.2502 M CONTAINMENT SYSTEM FOR LOCALIZED STEEL REPAIR AND PAINTING

DESCRIPTION

This work shall consist of furnishing and installing a total containment enclosure around the immediate work area to contain and collect debris generated during localized paint removal operations that are performed in conjunction with structural steel repair or removal work. The work associated with dismantling and moving the enclosure to new locations on the structure as paint removal operations progress, and with removing the enclosure when paint removal operations are completed, is also included. The containment enclosure shall be used to contain spent materials, dust, and other debris generated: (1) during cleaning and paint removal operations; (2) when vacuuming the steel surfaces on the structure in preparation for field painting; (3) when collecting and removing paint debris. The performance of the containment enclosure will be judged on its ability to prevent visible emissions (releases) of spent materials, dust, or other debris into the environment.

The containment enclosure provided shall generally be constructed of permeable materials. All seams in containment materials and all joints between the containment enclosure and the bridge shall be sealed by overlapping. Entry into the work area may be made through an open seam in the containment enclosure. Ventilation inside the enclosure may be by natural means. Air filtration of exit air is not required. However, it may be necessary to provide ventilation to meet OSHA requirements.

Reference information on containment enclosures can be obtained from the following:

1. SSPC - Guide 6I (CON), Guide for Containing Debris Generated During Paint Removal Operations, Steel Structures Painting Council, Pittsburgh PA.
2. SSPC - Steel Structures Painting Manual, Volume 1, Steel Structures Painting Council, Pittsburgh, PA.
3. Industrial Lead Paint Removal Handbook, by Kenneth A. Trimber, SSPC Publication 91-18, Steel Structures Painting Council, Pittsburgh, PA.

MATERIALS

Materials and equipment as described in Construction Details shall be selected by the Contractor and approved by the Engineer prior to use.

CONSTRUCTION DETAILS

Rigid or flexible materials may be used to construct the containment enclosure. Rigid materials shall be impermeable and shall be comprised of plywood panels, or corrugated panels of steel, aluminum, or reinforced fiberglass.

Flexible materials shall be fire retardant. Flexible materials for walls and ceilings may be permeable. Permeable materials that are formed or woven of an open mesh construction to allow air flow shall be designed or rated to a minimum screen retention capacity of 85%. Screen retention capacity shall mean the amount of light transmittance through the screen (opacity) due to the mesh size of the opening.

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Flexible covers for flooring shall be impermeable and will only be allowed if the ground and paved surfaces are smooth surfaces from which debris can be collected by vacuuming. If a smooth ground surface is not available, rigid materials shall be used for the floor of the enclosure.

A support structure providing little or no support beyond that necessary to affix containment materials may be used as a framework for the enclosure. All mating surfaces between the bridge structure and the containment enclosure, and all joints and seams formed in the fabrication of the enclosure, shall be sealed by overlapping materials. Entry into the work area shall be through an overlapped seam in the containment materials.

Light intensity by natural or artificial means inside the containment enclosure shall be maintained at a minimum of 535 lx on the steel surface. Auxiliary lighting shall be provided as necessary. The Contractor shall supply the Engineer with one(1) portable light meter, with a scale of 0 to 535 lx. The meter will be returned to the contractor at the completion of work.

All cleaning and paint removal work, and all work associated with the collection of paint waste debris, and with the subsequent vacuuming of debris from the steel surfaces on the structure in preparation for painting, shall be performed inside the containment enclosure.

Extreme care shall be taken to prevent emissions (releases) of waste materials when abrasive blast cleaning and paint removal work is being performed near joints that are formed between the enclosure and the bridge structure, and near seams in the enclosure materials.

The Contractor shall make every attempt to limit workers from entering or exiting the containment enclosure when blast cleaning and paint removal operations are being performed.

All waste material that results from and paint removal operations shall be cleaned up and collected from the floor, walls, and other surfaces inside of the containment enclosure by vacuuming. Sweeping, shoveling, or other mechanical means to remove the waste materials will not be allowed. Clean up operations shall be performed daily, before new paint is applied, or before a prolonged work stoppage, such as for weather interruptions.

Prior to disassembly or moving of the containment enclosure, the inside surfaces of the enclosure (walls, floors, ceiling, etc.) shall be cleaned of dust and other spent material by vacuuming. The Contractor shall take all measures necessary to prevent the release of waste material during moving or removal of the containment.

The effectiveness of the containment enclosure shall be determined by the Engineer by visual inspection for dust plumes or other visible evidence of emissions (releases) of waste materials into the environment. Throughout the duration of work there shall be no visible discharges. If there is a visible discharge the contractor shall immediately stop work and perform necessary repairs to the containment enclosure or modifications to cleaning operations to the Engineer's satisfaction.

The Engineer may direct the Contractor to stop all work activities and require the Contractor to immediately clean up all waste materials within the enclosure when in the Engineer's opinion, threatening weather conditions exist. This measure may be exercised when an apparent threat exists that could cause

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the release of waste material to the surrounding environment, such as high winds or heavy rain.

If the wind velocity causes the containment enclosure to billow, or to emit dust, or to otherwise be a hazard in the opinion of the Engineer, the Contractor shall immediately cease work and clean up all the debris. Under severe conditions the Contractor shall disassemble the containment enclosure.

Any waste material that is released outside the containment enclosure shall be immediately cleaned up using vacuums. Care shall be taken on pavement or other surfaces to collect all waste material so as to prevent it from being redistributed into the air and environment by traffic.

Ventilation inside the enclosure is not specifically required, and may be by natural means. However, it may be necessary to provide mechanical ventilation to meet OSHA requirements for worker exposure to lead and other provisions. If mechanical ventilation is provided to address these requirements, filtration of exit air is not required.

All vacuum equipment that is being used for collection and clean up work shall be equipped with high efficiency particulate (HEPA) filters.

METHOD OF MEASUREMENT

Payment will be made at the lump sum price bid.

BASIS OF PAYMENT

The lump sum price bid shall include the cost for all labor, materials and equipment necessary to complete the work. All work shall be done in a manner satisfactory to the Engineer.

Progress payments will be made. They will be based upon the number of work days required to complete all of the cleaning and paint removal work.

Prior to the beginning of any work, the Contractor shall supply the Engineer with an initial estimate of work days required to complete all of the cleaning and paint removal work. This initial estimate will not be considered final. The Engineer may request a revised estimate at any time during the progress of the work.

The Engineer will determine a daily rate of payment using the lump sum price bid, distributed over the estimate of work days. The daily rate will be used to authorize payment in accordance with §102-17, Article 7.

Should the Engineer request a revised estimate and use that estimate to establish a new daily rate, the lump sum bid price shall be reduced by the total of the amounts previously authorized for payment, prior to the establishment of the new daily rate. Failure on the part of the Contractor to supply a revised estimate when requested, will be cause for the progress payment procedure to be immediately terminated.

Progress payments for this work will be made only for days during which abrasive blast cleaning and paint removal work is actually performed.

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Payment will be made under:

<u>Item No.</u>	<u>Item</u>	<u>Pay Unit</u>
18570.2502 M	Containment System For Localized Steel Repair and Painting	Lump Sum (for each Structure)

NOTE: nn denotes serialized pay item. See 8101-53

This Specification
has been
Disapproved
as a result of
the issuance of
EI 97-029