

Special Specification 4108

Precast Medallions



1. DESCRIPTION

Fabricate and install cast stone or concrete ornamentation for attachment to bridge substructure as shown on the plans and required by this Item. The precast medallions consist of the cast stone or concrete element bearing the design shown in the plans and the mechanical hardware, adhesives, and sealants necessary for its installation.

2. MATERIALS

- 2.1. **Precast Medallions.** Provide precast medallions of cast concrete produced by a commercial manufacturer of such elements. Provide precast medallions made of concrete with 3,500 psi minimum compressive strength. Finish the medallions in a manner to create a precise solid surface of the insignias with a smooth stone appearance. Reinforce medallions with reinforcing steel, welded wire fabric or reinforcing, or non-metallic fibers. Color concrete uniformly with pigments meeting ASTM C979 in a color approved by the Engineer.
- 2.2. **Adhesives and Hardware for Attachment.** Provide adhesives and mechanical hardware for attachment. Use a Type VII Concrete Adhesive per DMS-6100 "Epoxyes and Adhesives" for attaching rear face of precast medallion to inset surface of bent caps. Medallion manufacturer must preinstall stainless steel or galvanized threaded anchor rods projecting out of the rear face of the medallion. Use a Type III Class C Epoxy for anchoring the rods/medallion to holes cored in the face of the bent cap.
- 2.3. **Silicone Sealant.** Provide a Class 4 Silicone Joint Sealant per DMS-6310 "Joint Sealants and Fillers" for sealing the perimeter interface between the medallion and the adjacent bent concrete.

3. CONSTRUCTION

- 3.1. **Initial Submissions.** Submit manufacturer information and qualifications for approval by the Engineer prior to obtaining detailed approval information. After obtaining approval of the selected manufacturer, submit dimensioned camera-ready line art of the insignia, methods of attachment, the concrete mix designs specifications, and a small scale cast sample representative of the proposed product to the Engineer for approval. Do not proceed with ordering precast medallion until approval is granted.
- 3.2. **Handling and Acceptance.** Carefully transport precast medallions to the job site. Store and handle medallions in a manner that avoids damage as recommended by the manufacture. Precast medallions showing unacceptable color variation, finish, fabrication tolerance, workmanship, or cracking/chipping will not be accepted.
- 3.3. **Installation.**
- 3.3.1. **Surface Preparation.** Verify that the inset in the substructure to receive the medallion is smooth. Prepare inset in substructure by cleaning surface with detergent and water. Etch surface with muriatic acid or other approved method followed by a waterblast cleaning. Clean surface within 24 hr. of mounting medallion. With rotary or core drilling equipment (no impact drilling), drill holes in face of concrete at locations that match projecting threaded anchors to a depth approximately 1/4 in. deeper than the anchor projection. Clean holes thoroughly.
- 3.3.2. **Mounting.** Immediately prior to mounting, apply the respective concrete adhesives to 100% of the surface and into the anchor holes in accordance with DMS-6100 and manufacturer recommendations. Mount the

precast medallion into the inset within the specified allowable gel time of the adhesive materials. Use an approved method of holding the medallions in place until the adhesive materials have sufficiently cured.

- 3.3.3. **Cleanup.** If damaged or dirtied during installation, clean exposed face of precast medallion after installation per manufacturer recommendations and as approved by the Engineer. Address damaged surfaces per Item 427.

4. MEASUREMENT

This item will be measured by each precast medallion.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Precast Medallions." This price is full compensation for furnishing and placing the precast medallions and for all labor, tools, equipment, and incidentals necessary to complete the work.