

SECTION 67

FABRIC FORMED CONCRETE MAT

67.1 DESCRIPTION

A. General

The work consists of placing fabric envelope forms in a mat configuration on a prepared surface and filling the placed forms with a pump-able aggregate/cement water slurry mixture.

B. Related Work

Section 65	Riprap
Section 100	Portland Cement
Section 101	Air-Entraining Admixtures
Section 102	Chemical Admixtures for Concrete
Section 104	Water For Use in Portland Cement Concrete
Section 105	Fine Aggregate for Use in Portland Cement Concrete
Section 106	Masonry Mortar Sand and Epoxy Resin Mortar Sand
Section 107	Coarse Aggregate for Use in Portland Cement Concrete
Section 124	Fabric Formed Concrete Mat Material
Section 2002	Controlled Low Strength Material (Flowable Fill)

67.2 MATERIALS

- A. Fabric forms for concrete mat shall conform to the requirements of Section 124.
- B. Portland Cement Slurry shall consist of a mixture of Portland cement, aggregate, and water so proportioned and mixed as to provide pump-able slurry in which solids remain in suspension. The mix shall be designed to obtain a minimum compressive strength of 2000 (2000) psi at twenty-eight (28) days when made and tested in accordance with AASHTO T 22 and T 23 and shall conform to the following requirements:
1. Portland Cement shall conform to Section 100.
 2. Water shall conform to Section 104.
 3. Aggregates shall conform to the requirements of Sections 105 and 107, except the gradation. The aggregate shall be reasonably well graded from the maximum size, which can be conveniently handled by approved pumping equipment.

67.3 CONSTRUCTION EQUIPMENT

The Portland Cement Slurry sampled at the outlet of the injection hose shall contain six and five-tenths (6.5) plus or minus one and five-tenths (1.5) percent, entrained air.

The addition of slurry fluidifier or other admixtures will require approval of the Engineer.

Areas to receive erosion protection shall be prepared in conformance with Section 65. Fabric formed concrete mat construction shall conform to the following requirements:

- A. The Contractor shall submit a description of materials to be used in the proposed method of operations and furnish records and data to demonstrate that the finished mat will meet the quality and properties required.
- B. The fabric envelope forms shall be positioned over the surface as shown on the plans or as directed by the Engineer. Where required, adjacent fabric panels shall be joined by field sewing the two (2) layers separately, edge to edge, to provide a monolithic fabric form. Un-sewn lapped joints or simple butted joints shall not be permitted.
- C. Fabric formed concrete mat shall not be constructed when the ground is frozen. The concrete mat shall be maintained at a temperature above thirty-two (32) degrees F. until it has attained a compressive strength of one thousand five hundred (1500) psi when tested in accordance with SD 409.
- D. Material for slurry shall be measured into the mix by volume or weight. The quantity of water shall be adequate to produce a pump-able consistency. Mixing shall not be less than one (1) minute. The slurry shall be continuously agitated prior to injection. At temperatures below seventy (70°) degrees F., the slurry may be held in the mixer or agitator a maximum of two (2) hours and for a maximum of one and one-half (1 1/2) hours at higher temperatures. If there is an interruption in pumping, the slurry shall be re-circulated through the mixer drum or agitator.

Only approved mixing and pumping equipment shall be used in preparation and handling of the slurry. Before mixer, agitator, and pumping equipment are used, oil or other rust inhibitors shall be removed from surfaces, which will be in contact with the slurry.

Slurry shall be injected into the forms in the sequence and through insert points spaced as provided. Slurry may be injected through injection hoses placed within the fabric envelope. The distance between the point of discharge from the hose to the end of panel or the edge of the fully injected portion of the panel shall not exceed the plans-provided maximum distance between injection points.

67.4 METHOD OF MEASUREMENT

Fabric Formed Concrete Mat will be measured and calculated to the nearest whole square foot of surface area. The surface area of mat buried along the perimeter of the protection areas will be included in the measurement quantity.

Fabric mat test specimens will not require field measurement.

67.5 BASIS OF PAYMENT

Fabric Formed Concrete Mat will be paid for at the contract unit price per square foot. Payment will be full compensation for materials, labor, equipment, and incidentals required for site preparation work, protection to maintain the mat above thirty-two (32°) degrees F., and furnish the fabric formed concrete mat.

Fabric mat test specimens will be paid for at the contract lump sum price. Payment will be full compensation for materials, labor, equipment, and incidentals required to cast, cure, and finish specimens for testing.

END OF SECTION