Scour Repair Grout Bags, Item SPV.0035.xx.

**A Description**

This special provision describes furnishing and installing grout filled bags for scour protection.

**B Materials**

The grout shall consist of a mixture of portland cement, 6±1 percent air entrainment by volume, mortar sand aggregate, additives, and water proportioned to provide a pumpable mixture. The 28 day compressive strength shall be as specified on the plans or 3,000 psi minimum whichever is greater. Compressive strength test shall be made using grout cubes or 3”x6” cylinders. Submit the mix design and laboratory test results to the Engineer for approval prior to proceeding with the work.

Grout bags shall be made of high strength water permeable fabric of nylon and/or polyester. Each bag shall be provided with a self closing inlet value to accommodate insertion of the grout pumping hose. Seams shall be folded and double stitched. Grout bags shall have length, width, and thickness as defined on the plans. Alternate sizes require approval of the Engineer. Grout bag fabric shall meet or exceed the following properties:

|  |  |  |  |
| --- | --- | --- | --- |
| **Property** | **Test Method** | **Units** | **Specified**  **Minimum** |
| Wide-Width Strip Tensile Strength  - Machine Direction (MD)  - Cross Machine Direction (CD) | ASTM D 4595 ASTM D 4595 | lbf/in  lbf/in | 190  140 |
| Trapezoidal Tear Strength  - Machine Direction (MD)  - Cross Machine Direction (CD) | ASTM D 4533 ASTM D 4533 | lbf  lbf | 100  115 |

Fabric porosity and limited cement lost through fabric is essential to the successful execution of this work. Suitability of fabric and grout design shall be demonstrated by injecting the proposed grout mix into three 24-inch long by approximately 6-inch diameter fabric sleeves under a pressure of not more than 15 psi which shall be maintained for not more than 10 minutes. A 12-inch long test cylinder shall be cut from the middle of each cured test specimen and tested per ASTM C39. The average seven day compressive strength of the grout within the fabric shall be at least equal to that of standard companion test cylinders made per ASTM C31. In lieu of the above testing requirements the Contractor may submit test results from past successful projects and manufacturers test results to the Engineer for approval prior to proceeding with the work.

**C Construction**

Install grout bags as shown on the plans, given in these special provisions and as directed by the Engineer.

Before placement, thoroughly clean the area to be covered with grout bags of loose material. Position and fill the bags so that they abut tightly to each other and to the substructure units. Make appropriate allowance for contraction of bags resulting from grout injection. Stagger joints between bags in successive rows and tiers. Contractor may use temporary or permanent rods or other devices to hold the mats in place and to maintain the desired final shape. Remove temporary materials after grout has reached self supporting strength.

**D Measurement**

The department will measure Scour Repair Grout Bags by the cubic yard acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER DESCRIPTION UNIT

SPV.0035.xx Scour Repair Grout Bags CY

Payment for Scour Repair Grout Bags is full compensation for cleaning the area to be covered, furnishing, placing, and filling the grout bags.