

625-R-194 GABIONS

(Revised 03-20-08)

The Standard Specifications are revised as follows:

SECTION 625, BEGIN LINE 1, INSERT AS FOLLOWS:

SECTION 625 – GABIONS AND REVET MATTRESSES

625.01 Description

This work shall consist of riprap filled wire mesh baskets, constructed in accordance with 105.03.

625.02 Submittals

The Contractor shall submit the following information to the Engineer at least 15 days prior to commencing gabion or revet mattress construction.

- (a) *Type and source of basket material.*
- (b) *Type and source of fastening and miscellaneous materials.*
- (c) *Source of riprap.*
- (d) *Construction method and sequence.*
- (e) *A copy of the basket manufacturer's material and installation recommendations and instructions.*

MATERIALS

625.03 Materials

Materials shall be in accordance with the following:

<i>Geotextile</i>	<i>918.02</i>
<i>Riprap.....</i>	<i>904.04*</i>
<i>Twisted Wire Mesh Gabions and Revet Mattresses</i>	<i>ASTM A 975</i>
<i>Welded Wire Mesh Gabions and Revet Mattresses.....</i>	<i>ASTM A 974</i>
<i>* Riprap shall be uniform riprap A in accordance with 904.04(f).</i>	

(a) Baskets, Fasteners, Spiral Binders, Lacing Wire and Stiffeners

Where metallic coating is specified, metallic coated gabion or revet mattress baskets may be fabricated from either twisted or welded wire mesh in accordance with ASTM A 974 Style 1, 2, 3 or 4 or in accordance with ASTM A 975 Style 1, 2 or 4.

Where PVC coating is specified, PVC coated gabion or revet mattress baskets may be fabricated from either twisted or welded wire mesh in accordance with ASTM A 974 Style 5 or in accordance with ASTM A 975 Style 3.

The Contractor may select baskets for the coating type specified from either of the mesh types listed above. The selected-mesh type shall be used throughout a gabion or revet mattress structure. Baskets shall be prefabricated by the manufacturer and assembled in the field. Fabrication of baskets on site from stock materials will not be permitted.

Fasteners, spiral binders, lacing wire and stiffeners shall be of the same style and shall satisfy the same requirements as those for the selected baskets.

50 *A type A certification in accordance with 916 shall be provided for all components used in assembly of the baskets, including fasteners, spiral binders, lacing wire and stiffeners prior to use of the materials. The certification for material selected in accordance with ASTM A 974 shall include the following tests and results:*

1. *Diameter in inches (millimeters) of metallic coated wire for all components.*
2. *Diameter in inches (millimeters) of PVC coated wire, if applicable, both prior to and after coating for all components.*
3. *Mechanical properties in accordance with ASTM A 974 section 7.*
4. *Physical properties in accordance with ASTM A 974 section 8.*
5. *Dimensional tolerances in accordance with ASTM A 974 section 9.*

60 *The certification for material selected in accordance with ASTM A 975 shall include the following results:*

1. *Mesh characteristics in accordance with ASTM A 975 section 6.*
2. *Mechanical properties in accordance with ASTM A 975 section 7.*
3. *Physical properties in accordance with ASTM A 975 section 8.*
4. *Dimensional tolerances in accordance with ASTM A 974 section 9.*

(b) Soil Anchor Stakes

70 *Soil anchor stakes for revet mattresses shall be in accordance with the revet mattress manufacturer's recommendations.*

A type C certification in accordance with 916 shall be provided for soil anchor stakes prior to installation. The certification shall state that the soil anchor stakes supplied satisfy the testing requirements set out in the revet mattress manufacturer's recommendations.

CONSTRUCTION REQUIREMENTS

625.04 Construction

80 *Excavation for gabion or revet mattress basket foundations shall be as shown on plans and in accordance with 203.08 and 206.01 through 206.09. Excavation for toe walls or cut-off walls shall be made to the neat lines as shown on the plans.*

Where required, geotextile fabric shall be placed in accordance with 616.11 on the foundation prior to basket placement. Baskets shall be founded on the geotextile lined bed and laid to the lines and dimensions specified.

90 *Gabion and revet mattress baskets shall be placed as shown on the plans. Baskets shall be assembled, connected and filled in accordance with the manufacturer's recommendations and these specifications.*

Riprap shall be placed in close contact in the baskets so that maximum fill is obtained. Vertically exposed faces of the baskets shall be hand filled with larger aggregate. Aggregate shall be placed in 12 in. (300 mm) lifts so as to minimize basket distortion and damage to basket coating. Fill height differential between adjacent baskets shall not exceed 12 in. (300 mm) during construction. Twisted wire baskets shall be overfilled by 1 in. (25 mm) to 2 in. (50 mm) to allow for settlement. Welded wire baskets do not require overfilling. The baskets may be machine filled with sufficient handwork as required to accomplish the requirements herein.

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625.05 Method of Measurement

Gabion and revet mattress baskets will be measured by the cubic yard (cubic meter) of riprap required to fill the baskets in place. Geotextiles will be measured in accordance with 616.12.

625.06 Basis of Payment

Gabion and revet mattress baskets will be paid for at the contract unit price per cubic yard (cubic meter). Geotextiles will be paid in accordance with 616.13. Excavation of rock that is not identified within the limits of the foundation will be paid for in accordance with 104.03.

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Payment will be made under:

Pay Item

Pay Unit Symbol

<i>Gabions, Metallic Coated</i>	<i>CYS (m3)</i>
<i>Gabions, PVC Coated</i>	<i>CYS (m3)</i>
<i>Geotextiles</i>	<i>SYS (m2)</i>
<i>Revet Mattress, Metallic Coated</i>	<i>CYS (m3)</i>
<i>Revet Mattress, PVC Coated</i>	<i>CYS (m3)</i>

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The cost of furnishing the wire mesh baskets, spiral binders, lacing wire, stiffeners, tie and connecting wire, selvages, riprap material for filling the wire mesh baskets, soil anchor stakes for the wire mesh baskets, and all labor, materials and equipment required to furnish and install gabions or revet mattresses shall be included in the cost of the pay item.

The cost of excavation for foundations shall be included in the cost of the gabion or revet mattress pay items.

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