

b. Load Test - Twisted Mesh. A section of the mesh 1.8 m (6 ft.) long and not less than 0.90 m (3 ft.) wide, after first being subjected to the elongation test described above, shall withstand a load test of 26.7 kN (6,000 pounds) applied to an area of 0.093 m<sup>2</sup> (one square foot) approximately in the center of the section under test.

c. Single Strand Cut - Twisted Mesh. The wire mesh shall be fabricated in such a manner as to be non-raveling. This is defined as the ability to resist pulling apart at any of the twists or connections forming the mesh.

d. Weld Shear - Welded Mesh. The minimum average shear value in Newtons (pounds - force) shall not be less than 241 N (35000 lbf) multiplied by the nominal area of wire (based on the diameter of the metallic coated wire) in mm<sup>2</sup> (square inches) when tested.

e. Tensile Strength - Welded or Twisted Mesh. The test shall be conducted on the wire mesh in accordance with details described in ASTM A 392 except that strength shall be as listed under load test. Tensile testing shall occur prior to coating and fabrication of the mesh.

f. Zinc Coating - Welded or Twisted Mesh. The test shall be conducted in accordance with details described in ASTM A 90/A 90 M.

g. PVC Coating (Minimum Thickness .38 mm (0.015 Inches)) - Welded or Twisted Mesh. Specific gravity shall be 1.30 Kg/Dm<sup>3</sup> to 1.40 Kg/Dm<sup>3</sup> as specified in ASTM D 792. Hardness shall be 50 to 60 as specified ASTM D 2240. Resistance to abrasion shall be tested as per ASTM D 1242 with the loss of weight not being more than 0.195 g. Exposure to ultraviolet rays shall be tested according to ASTM D 1499 for 2000 hours at 63° C (145° F).

h. Fusion Bonded Epoxy Coating. The epoxy shall be fusion bonded in accordance with ASTM A 884. Abrasive resistance shall be tested as per ASTM D 1242 with the loss of weight not being more than 0.19 g.

**B. Fill**

1. Size. Gabion baskets shall be filled with approved aggregate with a minimum size of 100 mm (4 inches) and a maximum size of 200 mm (8 inches), with both stone measurements made in the greatest dimension.

2. The aggregate shall meet the requirements of 601.02.

**838.03 CONSTRUCTION**

A. Assembly. Assembly and erection of the baskets shall be as per manufacturer's recommendations.

B. Installation. The units shall be assembled and carried to the job site and

placed in their proper location. For structural integrity, all adjoining empty baskets shall be connected along the perimeter of their contact surface in order to obtain a monolithic structure.

C. Filling. Baskets shall be filled with stone carefully placed by hand or machine to assure alignment and avoid bulges with a minimum of voids. Along all exposed faces and edges, the outer layers of stone shall be carefully placed and packed by hand, ensuring a neat, compact, square appearance.

900 mm (36 inches) high gabions shall be filled in three layers, approximately 300 mm (1 ft.) at a time. Two connecting wires or preformed stiffeners shall be placed between each layer in all cells along all exposed faces of the gabion structure. Diagonal tact ties manufactured from U.S. Steel Wire Gage No. 9 wire are acceptable. All connecting wires shall be looped around two mesh openings and the wire terminals shall be securely twisted to prevent their loosening. The hooked ends of all stiffeners shall be closed by crimping with pliers.

The cells in any row shall be filled in stages so that local deformation may be avoided; that is, at no time shall a cell be filled to a depth exceeding 300 mm (12 inches) more than the adjoining cell.

The last layer of stone shall be leveled with the top of the welded wire gabion to assure proper closing of the lid and provide an even surface for the next course. The last layer of stone shall be overfilled a minimum of 50 mm (2 inches) from the top of the twisted wire gabion to allow for settlement and provide an even surface for the next course.

D. Lid Closing. The lids shall be closed tight over the filling until the lid meets the perimeter edges of the front and end panels. The lid of twisted mesh gabions shall be closed with an approved lid closure tool to minimize mesh deformation; single point tools (stakes or pry bars) are not permitted. The lid shall be tightly closed (laced or fastened) along all edges, ends and diaphragms in the same manner as described above for assembly.

**838.04 METHOD OF MEASUREMENT.** Measurement of gabions shall be the number of cubic meters (cubic yards) of volume completed and accepted.

**838.05 BASIS OF PAYMENT.** This item shall include the gabions, fill material, excavation, and all equipment, labor and material to completely install the basket. Payment shall be the cubic meters (cubic yards) in place and accepted. Payment shall be made under:

<u>Item</u>	<u>Units</u>	<u>Description</u>
838	Cubic meter (cubic yard)	Gabions
838	Cubic meter (Cubic yard)	Gabions with additional coating