

SECTION 02340 – ROCK GABION BASKETS

Replace this Section except for the Section number and title with the following:

(Follow all instructions and make all edits with “Track Changes” turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Description

02340.00 Scope - This Section includes the requirements for Rock gabion baskets of twisted or welded wire mesh.

Materials

02340.10 General - Furnish wire mesh free of breaks in the wire, free of breaks at weld points or other deficiencies. Furnish wires of either twisted or welded wire mesh meeting the following minimum requirements:

Galvanizing	0.80 oz. per sq. ft. minimum
Tensile strength *	60,000 psi minimum
Wire diameter tolerance limit	± 0.004"

* Tensile area includes galvanizing

Furnish welded wire according to AASHTO M 55 (ASTM A185) except with minimum weld shears of 600 pounds for 11-gauge, and 800 pounds for 9-gauge wires. All wire sizes are after galvanizing.

Furnish tie wires and internal connecting wires that are galvanized and no smaller than 13-1/2 gauge. Spiral binders may be used as an alternate to tie wire for basket assembly and basket-to-basket connections. Furnish spiral binders that are 9-gauge, galvanized, and have a 3-inch pitch. High tensile fasteners of the locking spring steel clip or clamp-on ring type may be used as alternates to tie wire for basket assembly only. Fabricate high tensile fasteners from 11-gauge steel wire with a minimum tensile strength of 240,000 psi. Furnish a Class 3 zinc coating according to ASTM A764. Furnish high tensile fasteners with a closed position tensile strength of 600 pounds.

Furnish galvanized wire according to ASTM A641.

02340.12 Twisted Wire Mesh Gabion Baskets - Furnish gabion panels of the twisted mesh style manufactured from 11-gauge with 9-gauge selvage wires and a uniform hexagonal pattern and formed with a non-raveling twist. Furnish hexagonal openings such that the major

axis (maximum line dimensions) does not exceed 4.75 inches and the area of the hexagonal opening, approximately 3.2 inches by 4.5 inches, does not exceed 9.5 square inches.

02340.20 Welded Wire Mesh Gabion Baskets - Furnish gabion panels of the welded mesh style manufactured from 11-gauge or 9-gauge wire, a nominal 3-inch by 3-inch grid pattern and according to AASHTO M 55 (ASTM A185). Furnish panels with maximum line dimensions of any opening that does not exceed 4.75 inches. Furnish 12-inch and 18-inch high mattresses made from 11-gauge panels. Gabions of square Cross Section (cubical-celled units) may be made with either 9-gauge or 11-gauge panels, except that within the same unit, panels of dissimilar wire sizes may not be mixed.

Galvanized 9-gauge stiffeners, placed diagonally in the baskets at the vertical one-third points, as shown or as recommended by the manufacturer, may be used instead of perpendicular cross ties.

02340.30 PVC Coated Wire Mesh Gabion Baskets - Furnish either twisted wire mesh or welded wire mesh wire type used for PVC coated wire mesh gabions according to 02340.00 and 02340.12 or 02340.20.

Furnish PVC coating for twisted wire mesh gabions extruded onto the wire core before weaving the coated wire into a double twisted hexagonal mesh. The use and minimum diameter of the various wires is as follows:

- Gabion Panel wire core manufactured from galvanized 12-gauge wire core with an overall minimum diameter of the galvanized wire core plus PVC coating of 0.136 inch.
- Selvage and reinforcing wire of heavily galvanized 10-gauge wire core coated with PVC and having an overall minimum diameter (galvanized wire core plus PVC coating) of 0.165 inch.
- Lacing and connecting wire of heavily galvanized 13 1/2-gauge wire core coated with PVC and having an overall minimum diameter (galvanized wire core plus PVC coating) of 0.120 inch.

02340.40 Fabrication - Fabricate gabions so that the sides, ends, lid and diaphragms can be assembled at the construction site into rectangular baskets of the specified sizes. Dimensions for heights, lengths and widths of gabion baskets are as shown with a tolerance of plus or minus 3 percent. Furnish gabions of single unit construction. Either connect the base, lid, ends and sides into a single unit or connect one edge of these members to the base section of the gabion in such a manner that strength and flexibility at the point of connection are at least equal to those of the mesh.

If the length of the gabion exceeds its horizontal width, equally divide the gabion by diaphragms into cells whose length does not exceed the horizontal width. Furnish the diaphragm Material of the same mesh and size as the body of the gabions. Furnish the gabion with the necessary diaphragms secured in proper position on the base in such manner that no additional tying at this juncture is necessary.

Assemble the wire mesh panels (base, ends, sides, diaphragms and lid) so strength and flexibility at connections are at least equal to those of a single panel.

02340.50 Acceptance - Provide a quality compliance certificate for gabion baskets according to 00165.35.