1030.1 REQUIREMENTS:

Gabions shall be supplied in various lengths and heights. The lengths shall be multiples (2, 3, or 4) of the horizontal width. The heights shall be fractions (1, ½, or 1/3) of the horizontal width. The horizontal width shall not be less than 36 inches (one meter). Gabions shall be of uniform width.

Gabions shall be fabricated so the sides, ends, lid, and diaphragms can be assembled at the construction site into a rectangular basket. Gabions shall be of single unit construction. Base, lid, ends, and sides shall be either woven into a single unit or one edge of these members connected to the base section of the gabion so strength and flexibility at the point of connection is at least equal to that of the mesh.

The gabion shall be furnished with diaphragms the same mesh and gauge as the body of the gabions, secured in proper position on the base in such a manner that no additional tying at this juncture will be necessary. The spacing of the diaphragms shall be the same as the horizontal width.

All perimeter edges of the mesh forming the baskets, including end panels and tops of diaphragms, shall be selvedged with selvedge wire. For sound structural integrity, the gabion mesh wires shall be wrapped around the selvedge wire with a number of turns necessary to interconnect each of them with the adjacent mesh wire.

For multitiered structures, the internal connecting wires shall be furnished. The internal connecting wires shall meet the same specifications as the wire used in the mesh.

Tie wire or connecting wire shall securely fasten all edges of the gabion and diaphragms to provide for four internal connecting wires in each cell one-half unit high and eight internal wires in each cell one unit high. The tie wire shall meet the same specifications as the wire used in the mesh except that the tie wire may be two gauges smaller.

Interlocking fasteners for galvanized gabions shall be high tensile 0.120 inch (3.05 mm) diameter galvanized steel wire measured after galvanizing. The galvanizing shall conform to ASTM A641-92 Class 3 coating. Fasteners shall also be in accordance with ASTM A764, Class II Type III.

Interlocking fasteners for PVC coated gabions shall be high tensile 0.120 inch (3.05 mm) diameter stainless steel wire conforming to ASTM A313, Type 302, Class I.

The wire mesh shall be made of galvanized steel wire having a minimum size of U.S. steel wire gage No. 11 (3.05 mm). The tensile strength of the wire shall be 60,000 to 85,000 psi (415 to 585 MPa) when tested in accordance with ASTM A392. The minimum zinc coating of the wire shall be 0.8 oz. per square foot (240 grams per square meter) of uncoated wire surface as determined by ASTM A90. The maximum linear dimension of the mesh opening shall not exceed 4-1/2 inches (115 mm) and the area of the mesh opening shall not exceed 10 square inches (65 square centimeters).

The wire mesh shall have elasticity permitting elongation to a minimum of 10 percent of the length of the section of the mesh without reducing the gauge or tensile strength of individual wires to values less than those for wire one gauge smaller.

A section of the mesh six feet (two meters) long and not less than three feet (one meter) wide, after the elongation test shall withstand a load test of 6,000 pounds (26,700 kN) applied to an area of one square foot (0.0929 square meters) in the center of the section.

An uncut section of mesh six feet (two meters) long, not less than three feet (one meter) wide, including selvedge bindings, shall have the ends securely clamped for three feet (one meter) along the width of the sample. When the width of the sample exceeds three feet (one meter), the clamps will be placed in the middle and the excess width will fall free on each side of the clamped section. The sample shall be subjected to sufficient tension to cause 10% elongation of the section between the clamps. After elongation and while clamped, the section shall be subjected to a load applied to an area of one square foot (0.0929 square meters) in the center of the sample section and perpendicular to the direction of the tension force. The sample shall withstand, without rupture of wire or opening of mesh fastening, an actual load of 6,000 pounds (26,700 kN). The ram head used in the test shall be circular with its edges beveled or rounded to prevent cutting of the wires.

The wire mesh shall resist pulling apart at the twists or connections forming the mesh when a single wire is cut and the section of mesh then subjected to the load test described in the elasticity test.

Each shipment of gabions shall be accompanied by a certificate, which states that the material conforms to the requirements.

GAUGE TABLE FOR ZINC COATED STEEL WIRE

Wire Gauge Designation	Equivalent Diameter	
	Inches	Millimeters (mm)
9	0.148	3.76
10	0.135	3.43
11	0.120	3.05
11½	0.113	2.87
12	0.105	2.67
12½	0.099	2.51
13	0.0915	2.32
14	0.080	2.03