MACCAFERRI

TECHNICAL DATA SHEET

Rev: 01, Issue Date 10.20.2021

GABION
GALVANIZED

Product Description

Gabion is a double twisted hexagonal wire mesh container of variable sizes, uniformly partitioned into internal cells by diaphragms positioned approximately 3.0 ft (0.9 m) centers (Fig. 1), interconnected with other similar units and filled with stone at the project site to form flexible, permeable, monolithic structures such as retaining walls, sea walls, channel linings, revetments, and weirs for erosion control application. Standard sizes of galvanized gabions are shown in Table 1.

Gabions shall be manufactured and shipped with all components mechanically connected at the production facility. The front, base, back and lid of the gabions shall be woven into a single unit. The ends and diaphragms shall be factory connected to the base. All perimeter edges of the mesh forming the basket and top, or lid, shall be selvedged with wire having a larger diameter (Table 3).

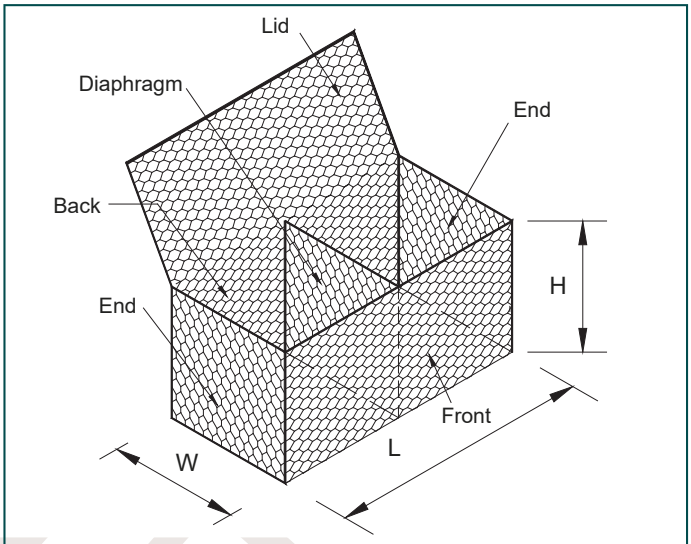

Figure 1

Wire

The steel wire used for manufacturing of Galvanized Gabions is heavily zinc coated soft or medium temper steel in accordance with ASTM A975, style 3 coating. The standard specifications of the wire are shown in Tables 2 and 3.

Wire used for manufacturing of gabions and lacing wire shall have a minimum tensile strength of 60,000 psi (415 MPa) to maximum tensile strength of 80,000 psi (550 MPa) as per ASTM A641/A641M. All tests on wire must be performed prior to manufacturing the mesh and shall comply with ASTM A975 requirements.

Woven Wire Mesh Type 8x10

The mesh and wire characteristics shall be in accordance with ASTM A975 Table 1, Mesh type 8x10. The nominal mesh opening D = 3.25 in. (83 mm) as per Fig. 2.

The minimum mesh properties for strength and flexibility should be in accordance with the following:

- *Mesh Tensile Strength* shall be 3500 lb/ft (51.1 kN/m) minimum when tested in accordance with ASTM A975 section 13.1.1.
- *Punch Test* resistance shall be a minimum of 6000 lb (26.7 kN) when tested in compliance with ASTM A975 section 13.1.4 .
- *Connection to Selvedges* should be 1400 lb/ft (20.4 kN/m) when tested in accordance with ASTM A975.

The tolerance on the opening of mesh 'D' being the distance between the axis of two consecutive twists, is according to ASTM A975

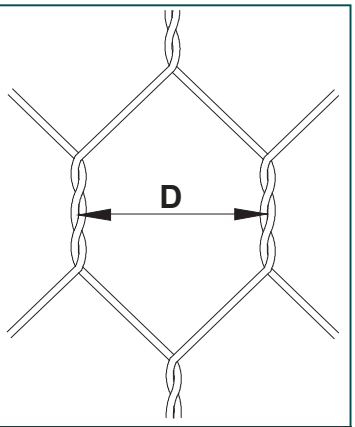

Figure 2

Lacing, Assembly and Installation

Gabion units are assembled and connected to one another using lacing wire specified in Table 3 and described in Fig. 4. MacTie preformed stiffeners or lacing wire can be used as internal connecting wires when a structure requires more than one layer of gabions to be stacked on top of each other. Internal connecting wires with lacing wire shall connect the exposed face of a cell to the opposite side of the cell. Internal connecting preformed stiffeners shall connect the exposed face of a cell to the adjacent side of the cell. Preformed stiffeners are installed at 45° to the face/side of the unit, extending an equal distance along each side to be braced (approximately 1 ft. (300 mm)). An exposed face is any side of a gabion cell that will be exposed or unsupported after the structure is completed.

Galvanized steel ring fasteners can be used instead of, or to complement, the lacing wire (Fig. 5).

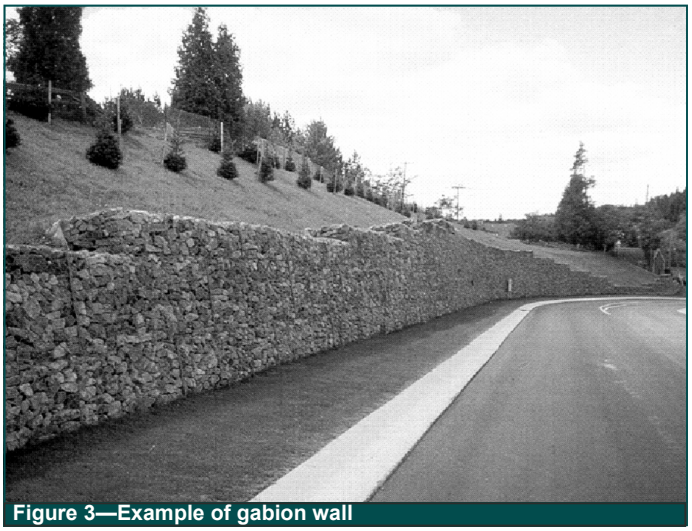
Figure 3—Example of gabion wall

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Maccaferri reserves the right to amend product specifications without notice and specifiers are requested to check as to the validity of the specifications they are using.

Table 1—Sizes for Gabions

L=Length ft (m)	W=Width ft (m)	H=Height ft (m)	# of cells
6 (1.83)	3 (0.91)	3 (0.91)	2
9 (2.74)	3 (0.91)	3 (0.91)	3
12 (3.66)	3 (0.91)	3 (0.91)	4
6 (1.83)	3 (0.91)	1.5 (0.45)	2
9 (2.74)	3 (0.91)	1.5 (0.45)	3
12 (3.66)	3 (0.91)	1.5 (0.45)	4
6 (1.83)	3 (0.91)	1 (0.30)	2
9 (2.74)	3 (0.91)	1 (0.30)	3
12 (3.66)	3 (0.91)	1 (0.30)	4
4.5 (1.37)	3 (0.91)	3 (0.91)	1

All sizes and dimensions are nominal. Tolerances of ± 5% of the width, height, and length of the gabions shall be permitted.

Galvanized steel rings for galvanized gabions shall be in accordance with ASTM A975 section 6.3.

Spacing of the rings shall be in accordance with ASTM A975 Table 2, Panel to Panel connection, Pull-Apart Resistance. In any case, ring fasteners spacing shall not exceed 4 in. (100 mm) (Fig. 4).

The rings can be installed using pneumatic or manual tools (Fig. 6).

The average maximum resistance of the fasteners from the field shall not be lower than 90% of the resistance provided in the certification.

Table 2—Standard mesh-wire

Type	D in. (mm)	Tolerance	Wire Dia in. (mm)
8x10 / ZN	3.25 (83)	±10%	0.12 (3.05)

Table 3—Standard wire diameters

	Lacing Wire	Mesh Wire	Selvedge Wire / Preformed Stiffeners
Mesh Diameter ø in. (mm)	0.087 (2.20)	0.120 (3.05)	0.153 (3.90)
Wire Tolerance (±) ø in. (mm)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
Minimum Qty/Zinc oz/ft^2 (g/m^2)	0.70 (214)	0.85 (259)	0.90 (275)

Quantity Request

When requesting a quotation, please specify:

- Number of units,
- Size of units (length x width x height, see Table 1),
- Type of mesh,
- Type of coating.

EXAMPLE: No. 100 gabions, 6x3x3, Mesh type 8x10, Wire diam. 0.120 in, Galvanized.

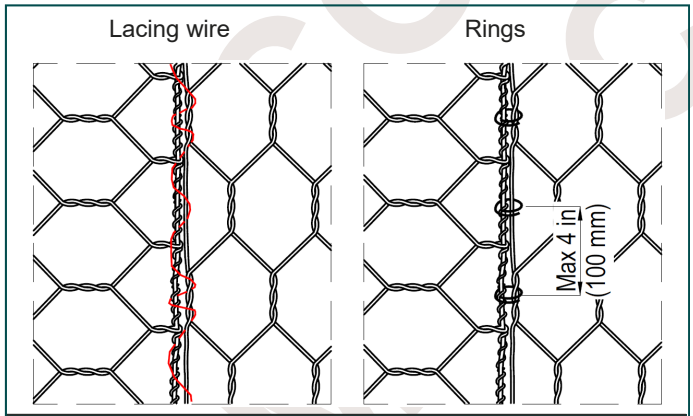

Figure 4

Figure 5

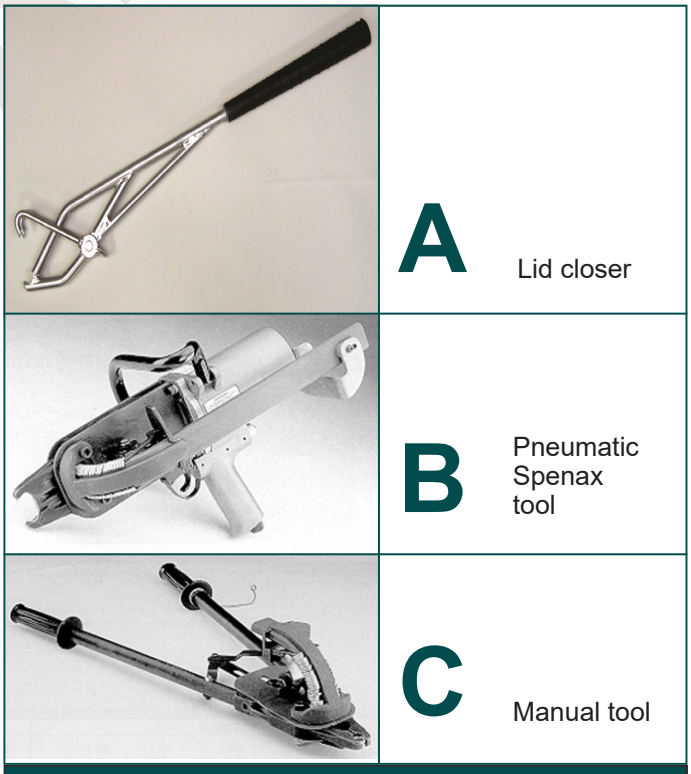

Figure 6

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