MACCAFERRI

TECHNICAL DATA SHEET

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American Units

GABION
STAINLESS STEEL

Product Description

Gabions are baskets manufactured from 8x10 double twisted hexagonal woven steel wire mesh, as per ASTM A975 (Figs. 1, 2). Gabions are filled with stones at the project site to form flexible, permeable, monolithic structures such as retaining walls, channel linings, and weirs for erosion control projects.
Stainless steel wire is used in the manufacture of the gabion. The standard specifications of mesh-wire are shown in Table 2.
The gabion is divided into cells by diaphragms positioned at approximately 3ft (0.9 m) centers (Fig.1). To reinforce the structure, all mesh panel edges are selvedged with a wire having a greater diameter (Table 3). Dimensions and sizes of stainless steel gabions are shown in Table 1.
Gabions shall be manufactured and shipped with all components mechanically connected at the production facility.

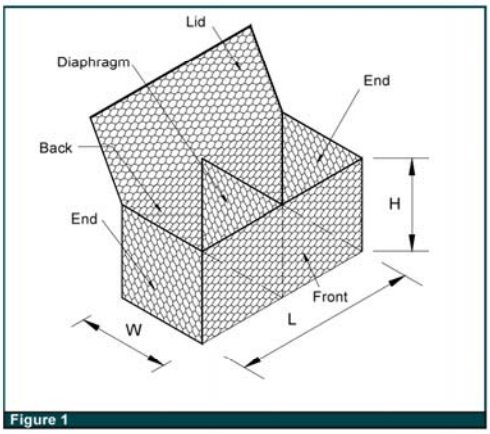

Figure 1

Wire

All tests on wire must be performed prior to manufacturing the mesh. All wire should comply with ASTM A580/580M, type 304CU or 316L, condition A annealed. Wire used for the manufacture of Gabions and the lacing wire, shall have a minimum tensile strength of 70,000 psi (480 MPa) as per ASTM A580/580M, Table 2.

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 2900 lb/ft (42.3 kN/m) minimum when tested in accordance with ASTM A975 section 13.1.1.
- *Punch Test* resistance shall be a minimum of 5300 lb (23.6 kN) when tested in compliance with ASTM A975 section 13.1.4 .
- *Connection to Selvedges* should be 1200 lb/ft (17.5 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

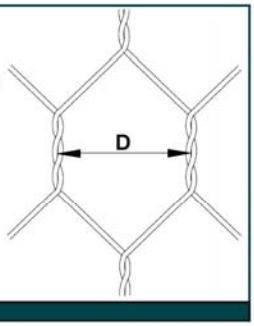

Figure 2

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.
Stainless 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 (1.8)	3 (0.9)	3 (0.9)	2
9 (2.7)	3 (0.9)	3 (0.9)	3
12 (3.6)	3 (0.9)	3 (0.9)	4
6 (1.8)	3 (0.9)	1.5 (0.45)	2
9 (2.7)	3 (0.9)	1.5 (0.45)	3
12 (3.6)	3 (0.9)	1.5 (0.45)	4
6 (1.8)	3 (0.9)	1 (0.3)	2
9 (2.7)	3 (0.9)	1 (0.3)	3
12 (3.6)	3 (0.9)	1 (0.3)	4
4.5 (1.4)	3 (0.9)	3 (0.9)	1

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

Stainless steel rings for stainless steel gabions shall be in accordance with ASTM A313/313M type 304. 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 6 in. (150 mm) (Fig. 4).
The rings can be installed using pneumatic or manual tools (Fig. 6). For full details, please see the Gabion Product Installation Guide.

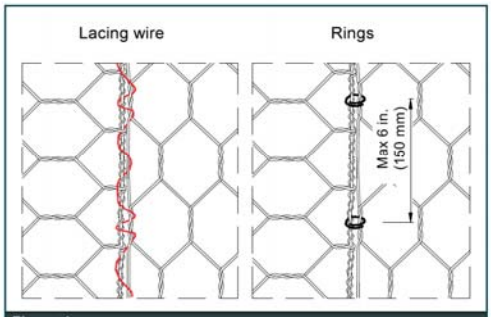

Figure 4

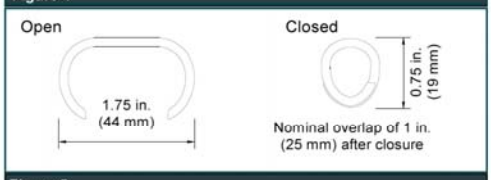

Figure 5

Table 2—Standard mesh-wire

Type	D in. (mm)	Tolerance	Wire Dia in. (mm)
8x10/ stainless steel	3.25 (83)	±10%	0.106 (2.70)

Table 3—Standard wire diameters

	Lacing Wire	Mesh Wire	Selvedge Wire / Preformed Stiffeners
Mesh Diameter ø in. (mm)	0.087 (2.20)	0.106 (2.70)	0.134 (3.40)
Wire Tolerance (±) ø in. (mm)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)

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. 0.106 in, stainless steel.

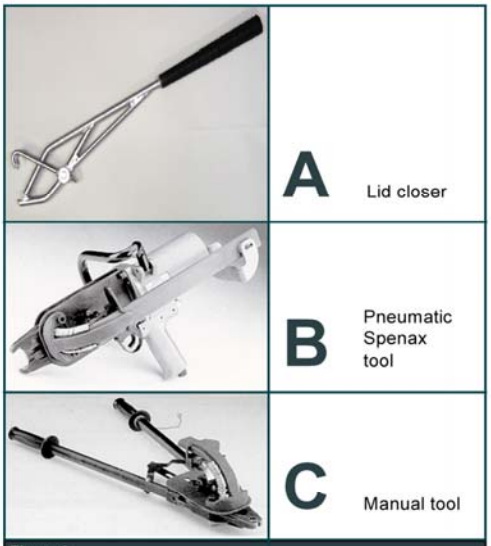

Figure 6

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