GABIONS
ZINC COATED

TECHNICAL DATA SHEET - Rev. 05, Date 01-12-2011

Gabions are baskets made of hexagonal double twisted wire mesh. They are filled with rocks at the project site to form flexible, permeable, monolithic structures such as retaining walls, channel linings, and weirs for erosion control projects.

The gabion is divided into cells by means of diaphragms positioned at approximately 1m centers (Figure 1). In order to reinforce the structure, all mesh panel edges are selvedged with a wire having a greater diameter (Table 3). Standard sizes of Zinc coated gabions are shown in Table 1.

Steel wire mesh

The double twisted steel wire mesh used in the production of gabions has mechanical characteristics higher than those stated in EN 10223-3. The nominal tensile strength of the mesh shall be as per Table 2; test done in accordance with EN 15381, Annex D.

Wire

The steel wire used in the manufacture of the gabion is heavily galvanized with Zinc. The standard mesh specifications are shown in Table 2.

All tests on wire must be performed prior to manufacturing the mesh.

1. **Tensile strength:** the wire used for the manufacture of gabions shall have a tensile strength between 380-550 N/ mm^2, which exceeds the strengths referred to in EN 10223- 3. Wire tolerances (Table 3) are in accordance with EN 10218 (Class T1).
2. **Elongation:** Elongation shall not be less than 10%, in accordance with EN 10223-3. Test must be carried out on a sample at least 25 cm long.
3. **Zinc coating:** minimum quantities of Zinc shown in Table 3 meet the requirements of EN 10244-2 (Table 1 - Class A).
4. **Adhesion of Zinc:** the adhesion of the Zinc coating to the wire shall be such that, when the wire is wrapped six turns around a mandrel four times the diameter of the wire, it does not flake or crack when rubbing it with bare fingers, in compliance with EN 10244.

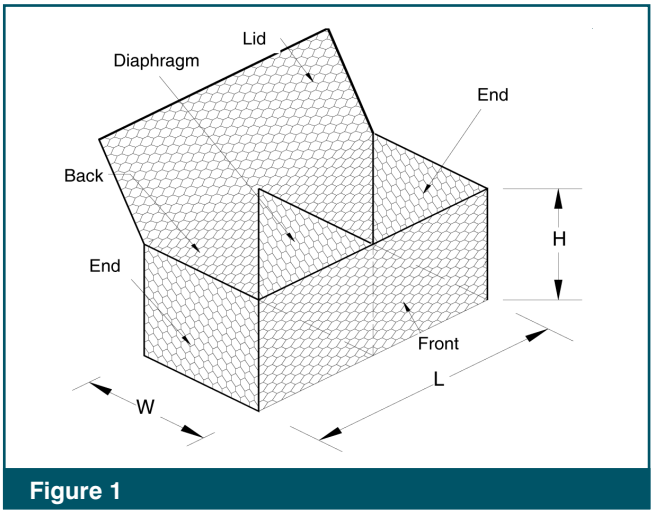

Figure 1

The tolerance on the opening of mesh 'D' being the distance between the axis of two consecutive twists, is according to EN 10223-3

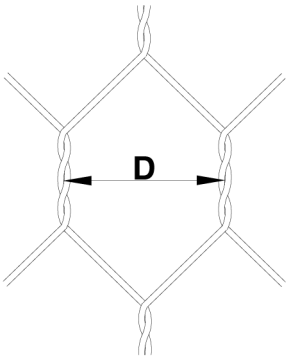

Figure 2

Typical Gabion Application

Typical Gabion Application

Table 1 - Sizes of Gabions			
L=Length (m)	W=Width (m)	H=Height (m)	# of cells
2	0.5	0.5	2
2	1	0.5	2
4	1	0.5	4
1	1	1	1
2	1	1	2
4	1	1	4
2	1.5	1	2
6	2	0.5	6

All sizes and dimensions are nominal.
Tolerances of ± 5% of the width, height, and length of the gabions shall be permitted (Table 1).

Table 2 - Standard mesh specification				
Type	D (mm)	Tolerance	Wire Diameter (mm)	Mesh Tensile Strength (kN/m)
8x10	80	+16%/-4%	2.70	50

Table 3 - Standard wire diameters			
	Mesh Wire	Selvedge Wire	Lacing Wire
Wire Diameter ø mm	2.7	3.4	2.2
Wire Tolerance (±) ø mm	0.06	0.07	0.06
Min. Quantity of Zinc gr/m²	245	265	230

Lacing Operations

Lacing operations can be made by using the tools shown in Fig.5. Galmac coated steel rings having the following specification can be used as an alternative to lacing wire when Zinc coated gabions are used (Figs. 3, 4):

- diameter: 3.00 mm, ASTM A975-97, Table 1
- tensile strength: 1380-1660 MPa, ASTM A764, Table 2, Class 1
- coating thickness: 244g/m² ASTM A764, Table 7, Class 3

Spacing of the rings must not exceed 150 mm (Fig.3)

Please contact Geofabrics for detailed installation information

Quantity Request

When requesting a supply quotation, please specify:

- size of units (length x width x height, see Table 1),
- type of mesh,
- type of coating

EXAMPLE: No. 100 gabions 2x1x1m - Mesh type 8x10 - Wire diam. 2.70mm - Zinc coated

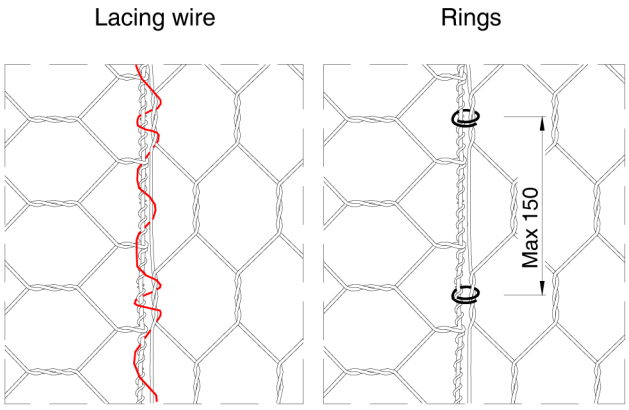

Figure 3

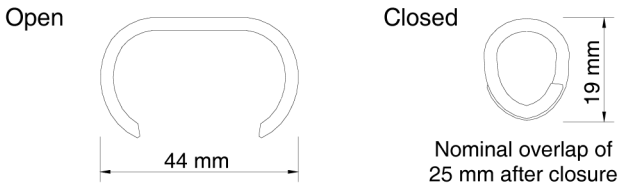

Figure 4

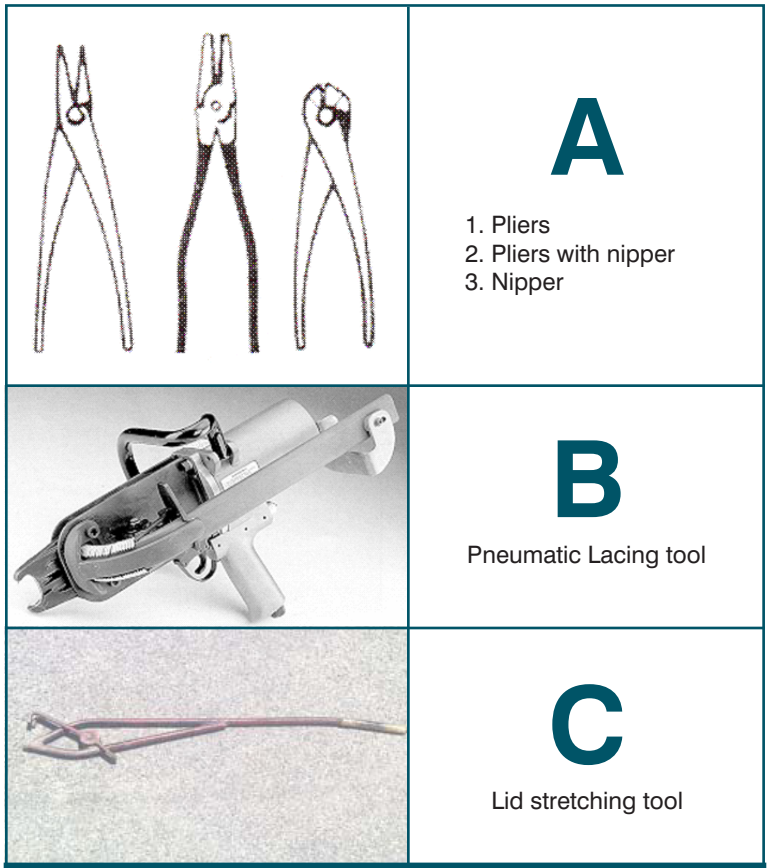

Figure 5