

### GABIONS GALFAN COATED

Gabions are baskets made of double twisted steel woven wire mesh, with mechanical characteristics higher than the ones suggested from EN 10223-3 (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.

The steel wire used in the manufacture of the gabion is heavily galvanized with Galfan, a Zn-5%Al-MM (mischmetal) alloy. The standard specifications of mesh-wire are shown in Table 2.

The gabion is divided into cells by means of diaphragms positioned at approximately 1m centers (Fig.1). In order to reinforce the structure, all mesh panel edges are selvaged with a wire having a greater diameter (Tables 3, 4). Dimensions and sizes of Galfan coated gabions are shown in Table 1.

#### Wire

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

- Tensile strength:** the wire used for the manufacture of gabions shall have a tensile strength between 380-550 N/mm<sup>2</sup> exceeding, in order to increase the tensile resistance of the finished products, what is suggested from EN 10223-3. Wire tolerances (Table 4) are in accordance with EN 10218 (Class T1).
- Elongation:** Elongation shall not be less than 10%, according to EN 10223-3. Test must be carried out on a sample at least 25 cm long.
- Galfan coating:** minimum quantities of Galfan shown at Table 4 meet the requirements of EN 10244-2 (Table 2 and Class A).
- Adhesion of Galfan:** the adhesion of the Galfan coating to the wire shall be such that, when the wire is wrapped six turns around a mandrel having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fingers.
- Outwearing accelerated aging test in SO<sub>2</sub>** (28 cycles) in accordance with EN ISO 6988.

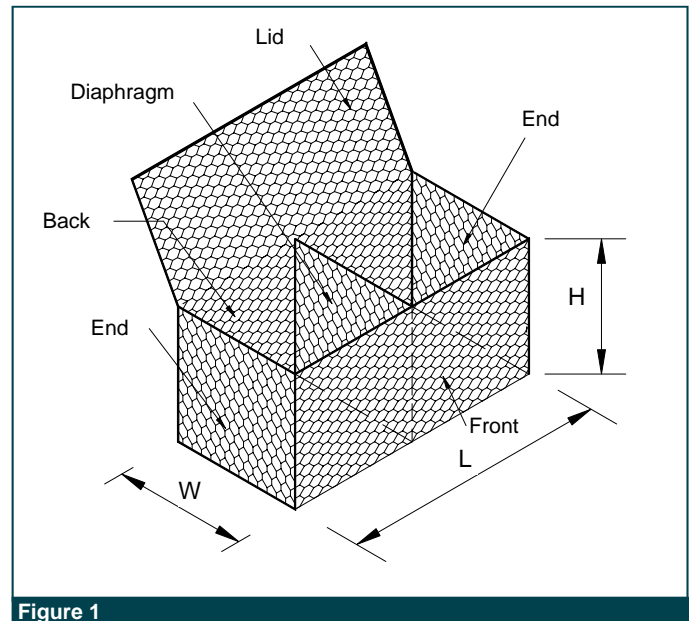


Figure 1

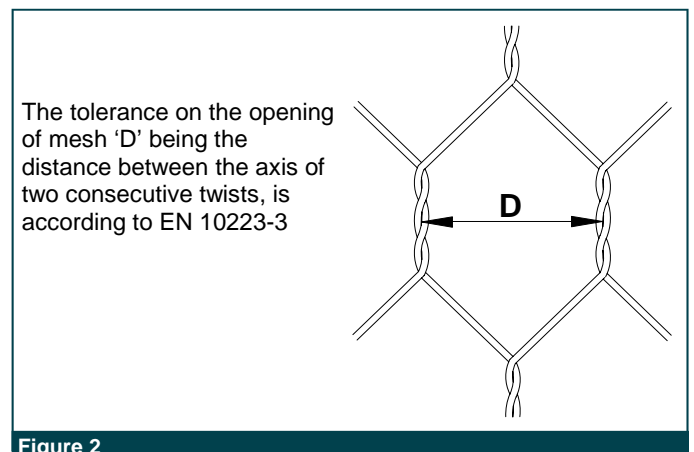
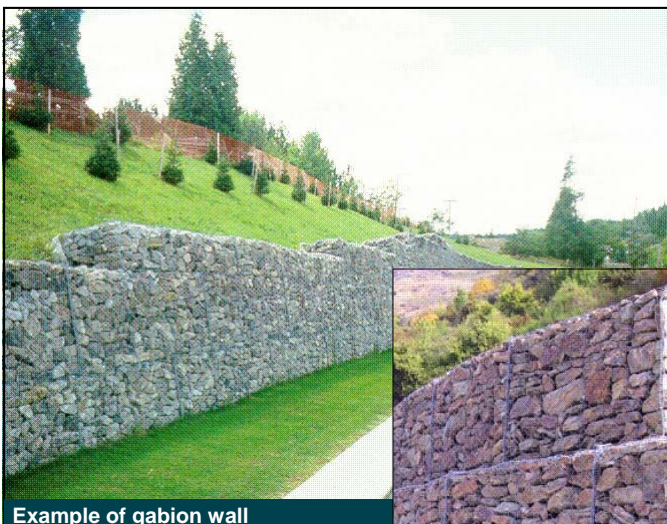


Figure 2



Example of gabion wall

Product Certification  
**BUREAU VERITAS**  
Certification



Certified Product n. 226/001

## 1. Table of sizes for gabions

L=Length (m)	W=Width (m)	H=Height (m)	# of cells
2	1	0.5	2
3	1	0.5	3
4	1	0.5	4
1.5	1	1	1
2	1	1	2
3	1	1	3
4	1	1	4

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

## Quantity Request

When requesting a quote, please specify:

- size of units (length x width x height, see Fig.1),
- type of mesh,
- type of coating and diaphragms

EXAMPLE: No. 100 gabions 2x1x1m - Mesh type 8x10 - Wire diam. 2.70 mm - Galvan coated—with diaphragms.

## Lacing Operations

Lacing operations can be made by using the tools shown in Fig.5. Galvan coated steel rings having the following specification can be used instead of lacing wire (Figs. 3, 4):

- diameter: 3.00 mm
- tensile strength: 170 kg/mm<sup>2</sup>

Spacing of the rings must not exceed 200 mm (Fig.3)

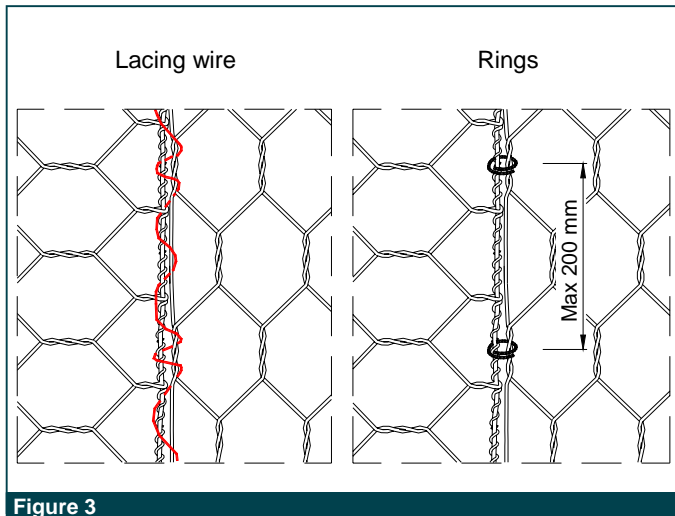


Figure 3

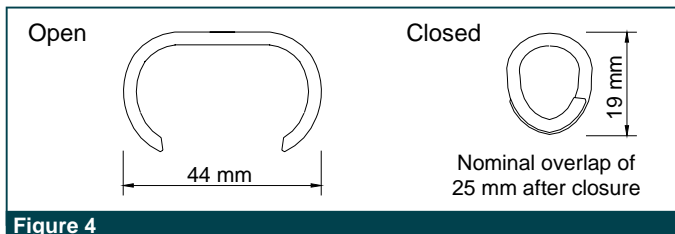


Figure 4

## 2. Standard Mesh-Wire

Type	D (mm)	Tolerance	Wire Dia (mm)
6x8	60	+16% / -4%	2.7
8x10	80	+16% / -4%	2.7-3.0

## 3. Standard wire diameters

	Mesh Wire	Selvedge Wire	Lacing Wire
6x8 Mesh Type	$\varnothing$ mm	2.7	3.4
8x10 Mesh Type	$\varnothing$ mm	2.7	3.4
		3.0	3.9

## 4. Table of wire tolerances and coating

Wire diameter	mm	2.20	2.40	2.70	3.00	3.40
Wire tolerance	( $\pm$ ) $\varnothing$ mm	0.06	0.06	0.06	0.07	0.07
Min.Q.ty Galvan	gr/m <sup>2</sup>	230	230	245	255	265

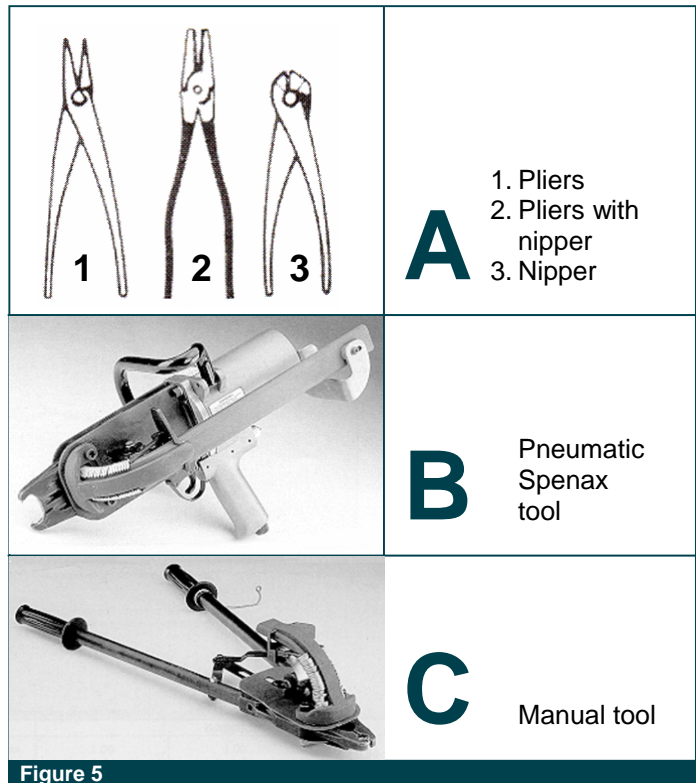


Figure 5

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