

GABIONS GALMAC 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 Galmac 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 Galmac, a Zn-5%Al alloy. The standard mesh specifications are shown in Table 2.

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/ mm², which exceeds the strengths referred to in EN 10223- 3. Wire tolerances (Table 3) are in accordance with EN 10218 (Class T1).
- 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.
- Galmac coating:** minimum quantities of Galmac shown in Table 3 meet the requirements of EN 10244-2 (Table 2 - Class A).
- Adhesion of Galmac:** the adhesion of the Galmac 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.
- Outwearing accelerated aging test in SO₂:** 28 cycles in accordance with EN ISO 6988

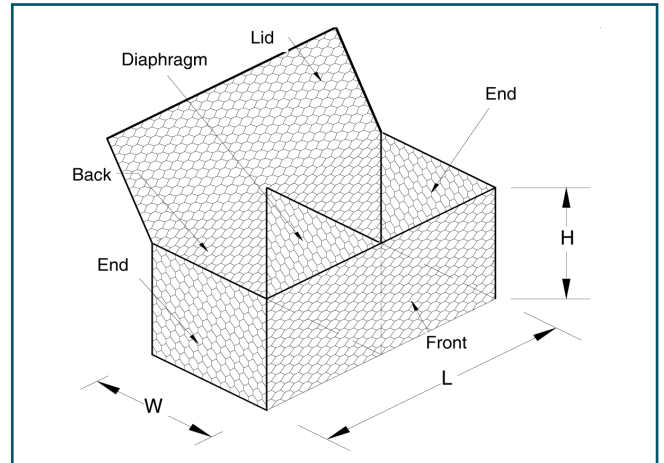


Figure 1

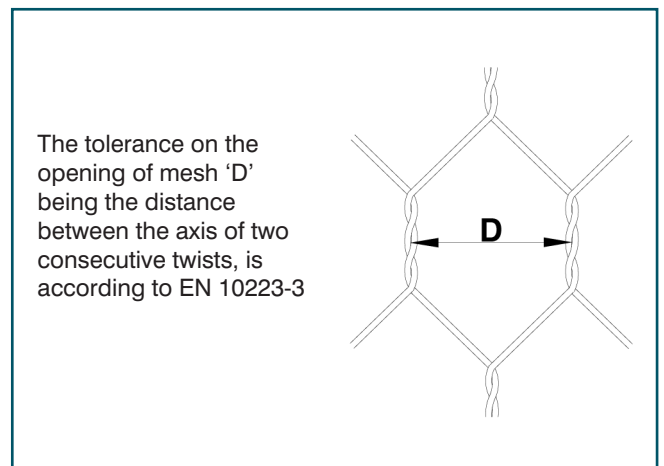


Figure 2



Typical Gabion Application



Typical Gabion Application

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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 $\pm 5\%$ of the width, height, and length of the gabions shall be permitted (Table 1).

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 Galmac 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

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 ϕ mm | 2.7 | 3.4 | 2.2 |
| Wire Tolerance (\pm) ϕ mm | 0.06 | 0.07 | 0.06 |
| Min. Quantity of Galmac gr/m ² | 245 | 265 | 230 |

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 - Galmac coated

Lacing wire

Rings

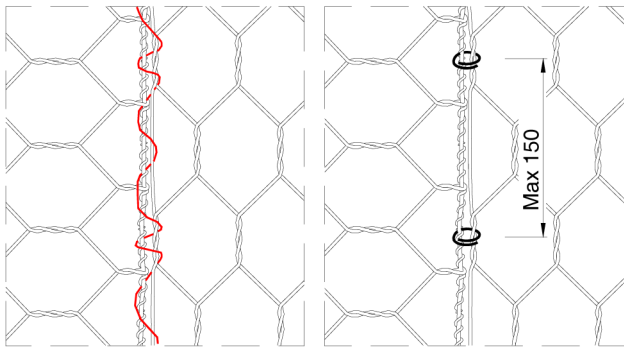
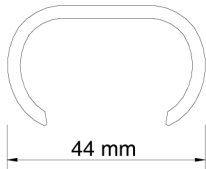


Figure 3

Open



Closed

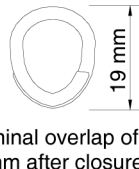
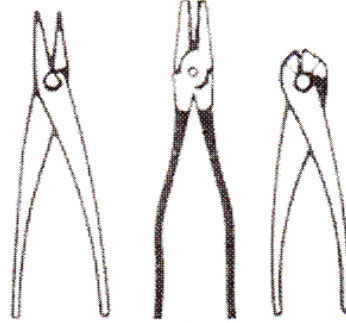


Figure 4



A

1. Pliers
2. Pliers with nipper
3. Nipper



B

Pneumatic Lacing tool



C

Lid stretching tool

Figure 5

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