

CASTORO RENO MATTRESS GALMAC COATED

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

Castoro Reno Mattresses are units made of hexagonal double twisted wire mesh. They are filled with rocks at the project site to form flexible, permeable, monolithic structures such as river bank protection and channel linings for erosion control.

The Castoro Reno Mattress is divided into cells by means of double diaphragms positioned at approximately 1m centers (Figure 1). The base of the unit and the internal diaphragms are manufactured from one continuous mesh panel. In order to reinforce the structure, all mesh panel edges are selvaged with a wire having a greater diameter (Table 3). Standard sizes of Galmac coated Castoro Reno Mattresses are shown in Table 1.

Steel wire mesh

The double twisted steel wire mesh used in the production of Castoro Reno Mattresses 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 mattress 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 Castoro Reno Mattresses 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

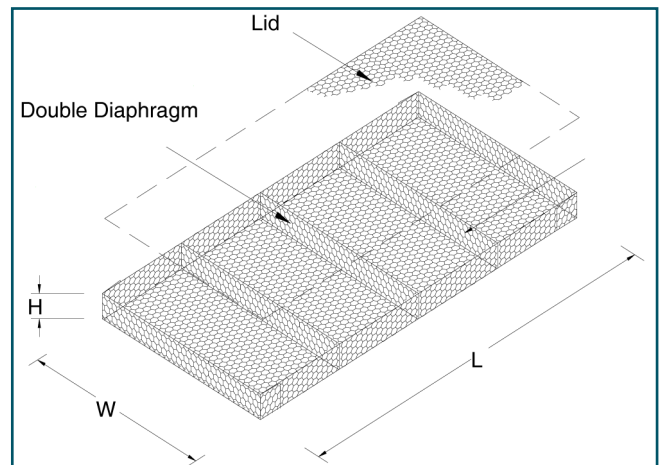


Figure 1

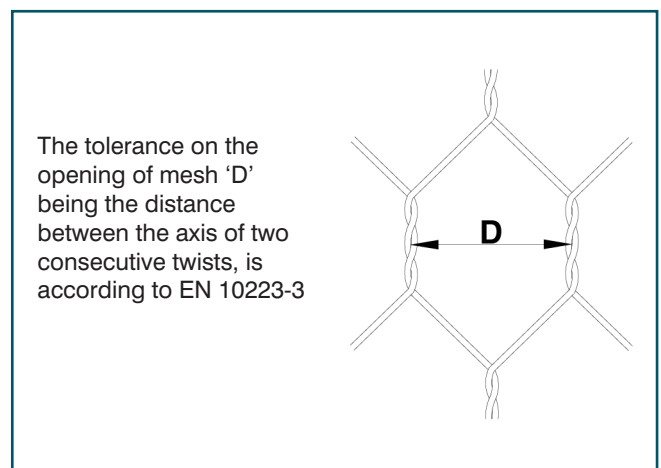


Figure 2



Typical Castoro Reno Mattress Application



Typical Castoro Reno Mattress Application

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Table 1 - Sizes of Castoro Reno Mattresses

L=Length (m)	W=Width (m)	H=Height (m)	# of cells
2	1	0.30	2
6	2	0.17	6
6	2	0.23	6
6	2	0.30	6

All sizes and dimensions are nominal. Tolerances of $\pm 5\%$ of the width, height, and length of the Reno Mattresses 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 mattresses 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)
6x8	60	+16%/-4%	2.00	32

Table 3 - Standard wire diameters

	Mesh Wire	Selvage Wire	Lacing Wire
Wire Diameter ϕ mm	2.0	2.4	2.2
Wire Tolerance (\pm) ϕ mm	0.05	0.06	0.06
Min. Quantity of Galmac gr/m ²	215	230	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 Castoro Reno Mattresses 6x2x0.17m - Mesh type 6x8 - Wire diam. 2.00 - Galmac coated

Lacing wire

Rings

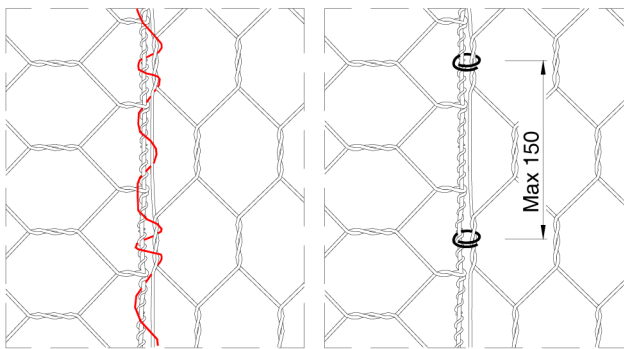
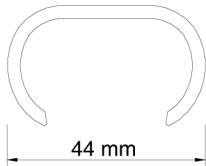


Figure 3

Open

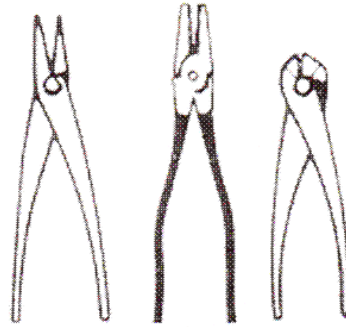


Closed



Nominal overlap of 25 mm after closure

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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