

## RENO MATTRESS GALMAC & POLYMER COATED

The Reno mattress is a structure made of hexagonal double twisted wire mesh, with mechanical characteristics higher than the ones suggested from EN 10223-3 (Figs. 1, 2). Reno mattresses are filled with stones at the project site to form flexible and permeable, monolithic structures such as river bank protection and channel linings for erosion control.

The steel wire used to manufacture the mattress is heavily galvanized with Galmac, a Zn-5%Al alloy. A PVC coating is then applied to provide added protection for use in aggressive environments where soil or water are acidic: in salt or fresh water, or wherever the risk of corrosion is present. The PVC coating has a nominal thickness of 0.50 mm. The standard combinations of mesh and wire are shown in Tab. 2.

In order to reinforce the structure, all mesh panel edges are selvaged with a wire having a greater diameter (Tab. 3).

Reno mattresses are divided into uniformly partitioned cells by internal diaphragms.

Dimensions and sizes of Reno mattresses are shown in Tab. 1.

### Wire

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

1. **Tensile strength:** the wire used for the manufacture of Reno mattresses and the lacing wire, shall have a tensile strength between 380-550 kg/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 (Tab. 3) are in accordance with EN 10218 (Class T1).
2. **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.
3. **Galmac coating:** minimum quantities of Galmac shown at Tab.3 meet the requirements of EN 10244-2 (Table 2 and Class A).
4. **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 having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fingers.

### P.V.C. (Polyvinyl Chloride) Coating

The technical characteristics and the resistance of the PVC to ageing meet the relevant standards. The main values for the PVC material, according to EN 10245-2, are as follows:

#### Specific weight:

1.30-1.35 kg/dm<sup>3</sup> in accordance with ISO 1183;

#### Hardness:

between 50 and 60 Shore D, according to ISO 868

#### Tensile strength:

higher than 21N/mm<sup>2</sup>, according to ISO 527

#### Elongation at break:

not less than 200%, in accordance with ISO 527;

#### Colour:

grey-RAL 7037

#### UV stabilized

**Outwearing accelerated aging test in SO<sub>2</sub>** (28 cycles) in accordance with EN ISO 6988.

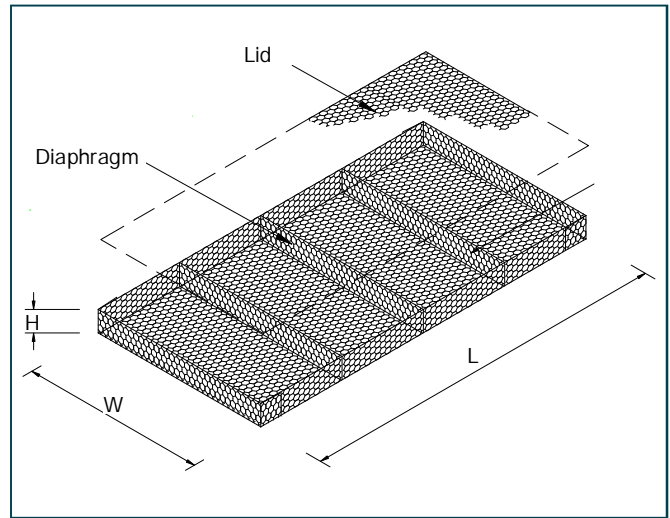


Figure 1

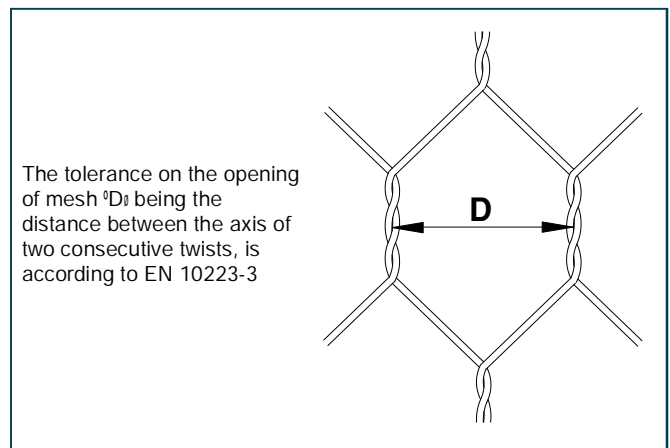


Figure 2



n° 226/001

L=Length (m)	W=Width (m)	H=Height (m)	Mesh type
3	2	0.17-0.23-0.30	6x8
4	2	0.17-0.23-0.30	6x8
5	2	0.17-0.23-0.30	6x8
6	2	0.17-0.23-0.30	6x8

All sizes and dimensions are nominal.  
Tolerances of  $\pm 3\%$  of the width, length, and  $\pm 2.5$  cm of the height of the Reno mattress shall be permitted.

### 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 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)

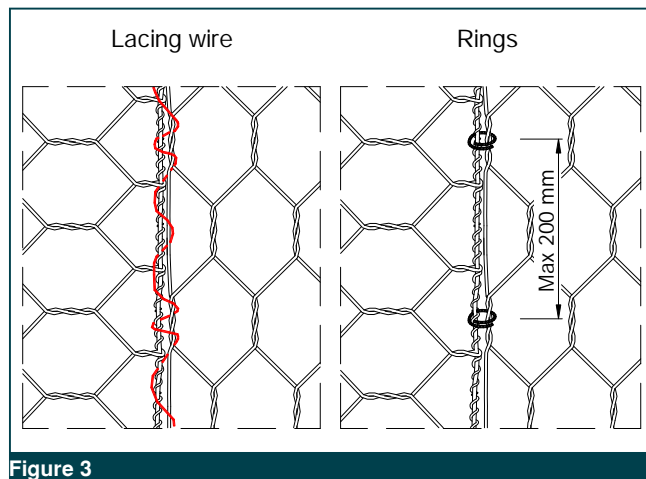


Figure 3

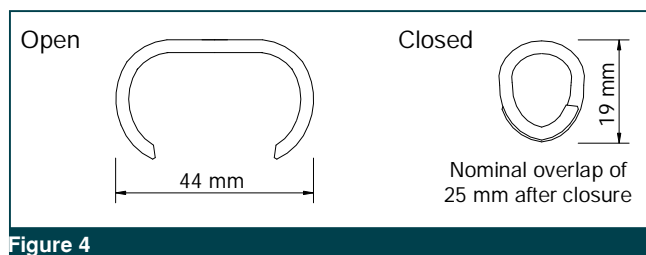


Figure 4

Type	D (mm)	Tolerance	Internal Wire Dia (mm)	External Wire Dia (mm)
6x8	60	+16%/-4%	2.20	3.20

	Mesh Wire	Selvage Wire	Lacing Wire	
Internal Wire Diameter	$\varnothing$ mm	2.2	2.7	2.2
Wire Tolerance	( $\pm$ ) $\varnothing$ mm	0.06	0.06	0.06
Min. Q.ty of Galmac	gr/m <sup>2</sup>	230	245	230

### 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  
EXAMPLE: No. 100 Reno mattresses 4x2x0.23 m - Mesh type 6x8 - Galmac + PVC coated

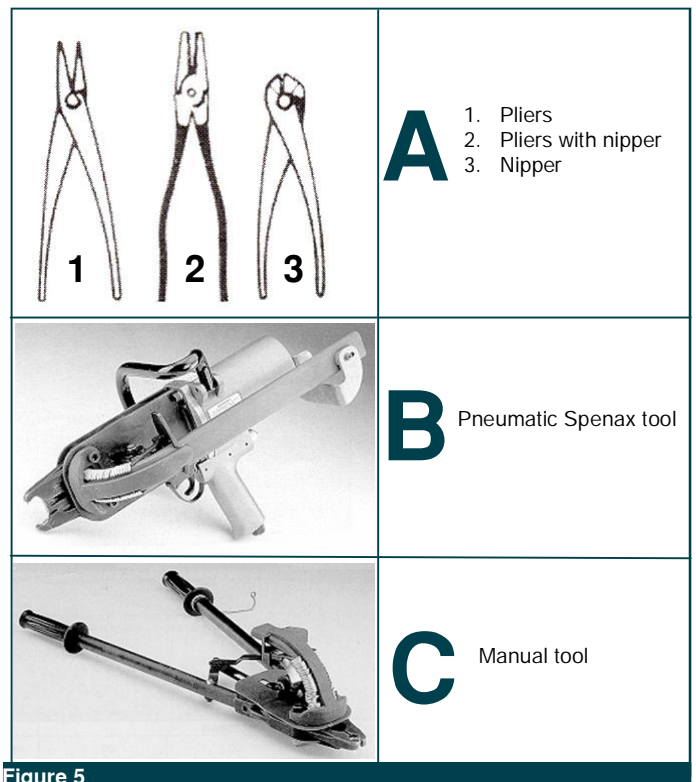


Figure 5