

### RENO MATTRESS GALMAC®

#### Product Description

The Reno mattress is a structure made of 6x8 hexagonal double twisted hexagonal woven steel wire mesh type as per ASTM A975 (Fig. 1 and 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 in the manufacture of the mattress is heavily GalMac® (zinc-5% aluminum-mischmetal [Zn-5% Al-MM] alloy) coated soft temper steel. The standard specifications of mesh and wire are shown in Table 2.

To reinforce the structure, all mesh panel edges are selvedged with a wire having a greater diameter (Table 3).

Reno mattresses are divided into cells by internal diaphragms. Dimensions and sizes of Reno mattresses are shown in Table 1.

#### Wire

All tests on wire must be performed prior to manufacturing the mesh. All wire should comply with ASTM A975, style 2 coating. Wire used for the manufacture of Reno mattresses and the lacing wire, shall have a maximum tensile strength of 75,000 psi (515 MPa) as per ASTM A856/A856M, soft temper steel.

#### Woven Wire Mesh Type 6x8

The mesh and wire characteristics shall be in accordance with ASTM A975 Table 1, Mesh type 6x8. The nominal mesh opening  $D = 2.5$  in. (64 mm) as per Fig. 2.

The minimum mesh properties for strength and flexibility should be in accordance with the following:

- *Mesh Tensile Strength* shall be 2300 lb/ft (33.6 kN/m) minimum when tested in accordance with ASTM A975 section 13.1.1.
- *Punch Test* resistance shall be a minimum of 4000 lb (17.8 kN) when tested in compliance with ASTM A975 section 13.1.4.
- *Connection to Selvedges* should be 700 lb/ft (10.2 kN/m) when tested in accordance with ASTM A975.

#### Lacing, Assembly and Installation

Reno mattresses are assembled and connected using lacing wire specified in Table 3 and described in Fig. 4. GalMac® coated ring fasteners can be used instead of, or to complement, lacing wire (Fig. 5 and Fig. 6).

GalMac® coated rings for GalMac® Reno mattresses shall be in accordance with ASTM A975 section 6.3.

Spacing of the rings shall be in accordance with ASTM A975 Table 2, Panel to Panel connection, Pull-Apart Resistance. In any case, ring fasteners spacing shall not exceed 6 in. (150 mm) (Fig. 4).

GalMac® fasteners can be placed using pneumatic or manual tools (Fig. 6). For full details please see the Reno Mattress Product Installation Guide.

The average maximum resistance of the fasteners from the field shall not be lower than 90% of the resistance provided in the certification.

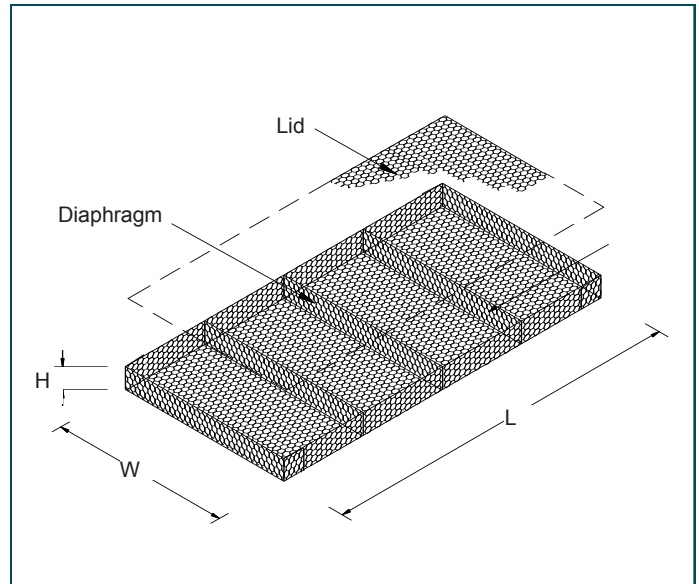


Figure 1

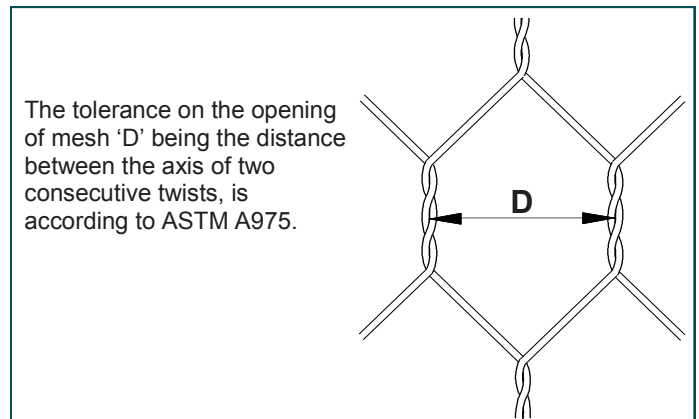


Figure 2

The tolerance on the opening of mesh 'D' being the distance between the axis of two consecutive twists, is according to ASTM A975.

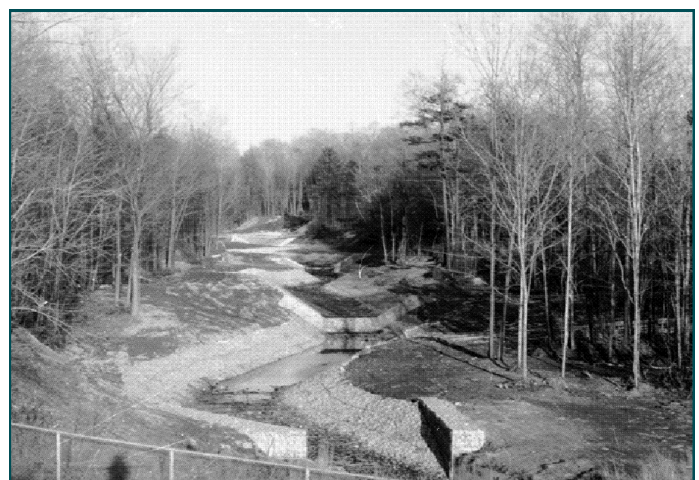


Figure 3-Example of Reno mattresses

**Table—Sizes for Reno mattresses**

L=Length ft (m)	W=Width ft (m)		H=Height in. (mm)	# of cells
9 (2.7)	6 (1.8)	9 (2.7)	6 (150)	3
12 (3.6)	6 (1.8)	9 (2.7)	6 (150)	4
9 (2.7)	6 (1.8)	9 (2.7)	9 (230)	3
12 (3.6)	6 (1.8)	9 (2.7)	9 (230)	4
12 (3.6)	6 (1.8)	9 (2.7)	12 (300)	4

All sizes and dimensions are nominal. Tolerances of ± 5% of the width, length, and ± 10% of the height shall be permitted.

## Quantity Request

When requesting a quotation, please specify:

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

EXAMPLE: No. 100 Reno mattresses, 9x6x9, Mesh type 6x8, Wire diam. 0.087 in. (2.20 mm) GalMac®.

**Table 2—Standard mesh-wire**

Type	D in. (mm)	Tolerance	Wire Dia in. (mm)
6x8/ GalMac®	2.5 (64)	±10%	0.087 (2.20)

**Table 3—Standard wire diameters**

	Lacing Wire	Mesh Wire	Selvedge Wire
Wire Mesh Diameter ø in. (mm)	0.087 (2.20)	0.087 (2.20)	0.106 (2.70)
Wire Tolerance (±) ø in. (mm)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
Minimum Quantity of GalMac® oz/ft² (g/m²)	0.70 (214)	0.70 (214)	0.80 (244)

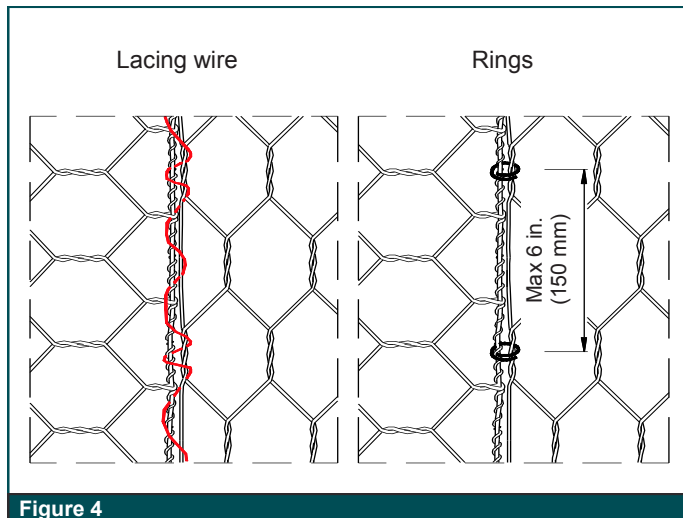


Figure 4

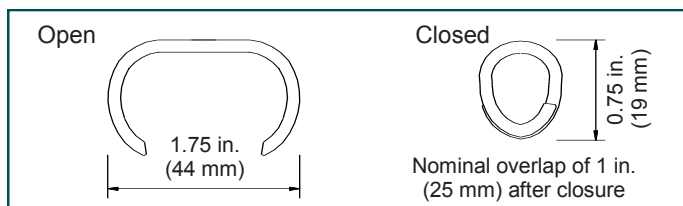


Figure 5

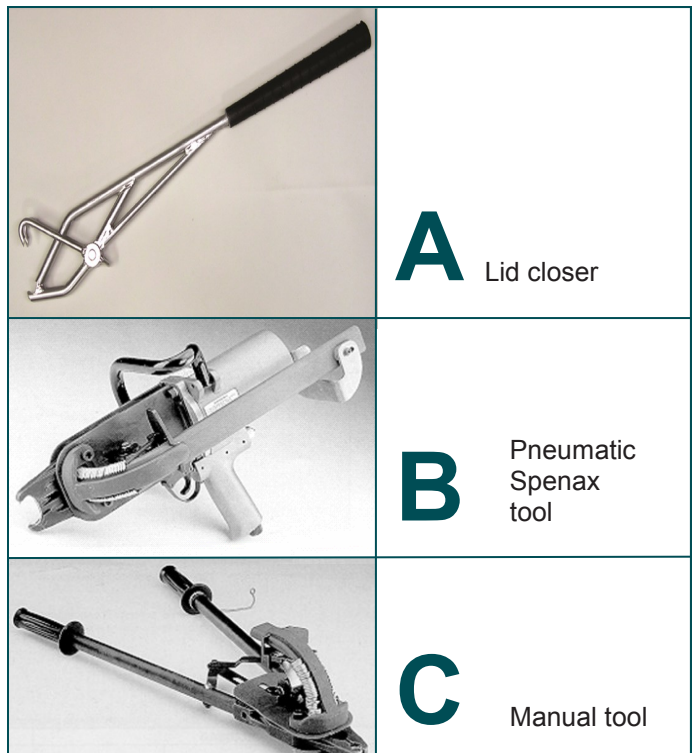


Figure 6

**A** Lid closer

**B** Pneumatic Spenax tool

**C** Manual tool