

# Reno Mattress (Galvanized)



## Product Description

The Reno mattress is a structure made of 6x8 double twisted hexagonal woven steel wire mesh type as per ASTM A975 (Figures 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 zinc-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 1 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 A641/A641M, soft temper steel.

## Woven Wire Mesh Type 6x8

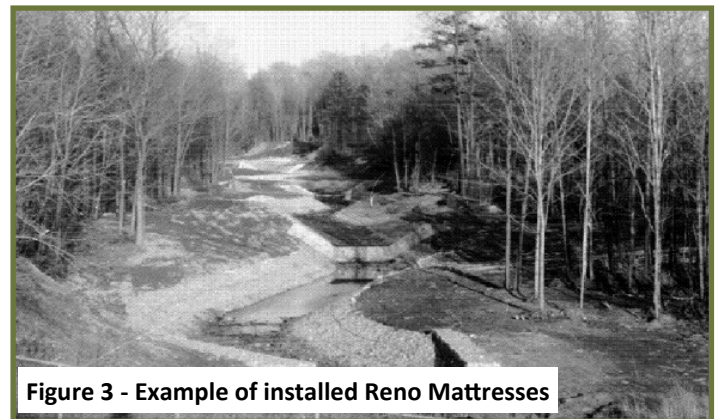
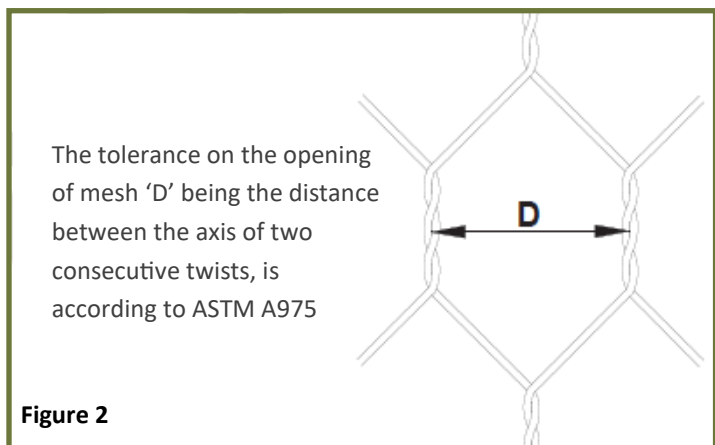
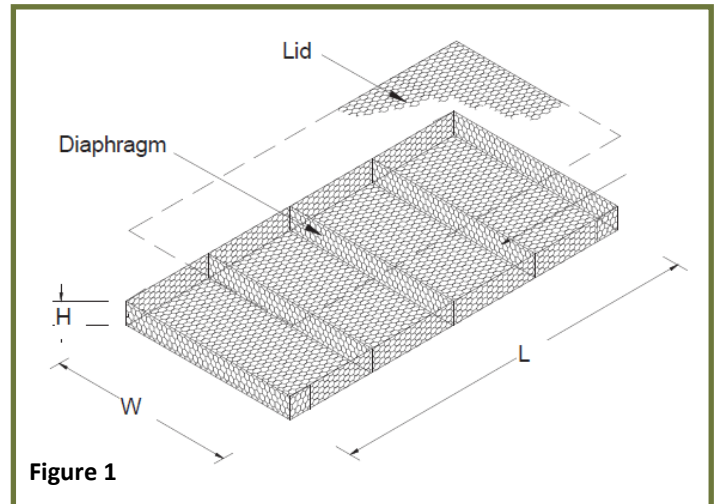
The mesh and wire characteristics shall be in accordance with ASTM A975 Table 1, Mesh type 6x8. The nominal mesh opening  $D = 2.5$  in. (64 mm) as per Figure 2. The minimum mesh properties for strength and flexibility should be in accordance with the following:

- 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 to one another using lacing wire specified in Table 3 and described in Figure 4. Galvanized steel ring fasteners can be used instead of, or to compliment lacing wire (Fig 5 and 6). Galvanized steel rings for galvanized Reno Mattresses shall be in accordance with ASTM A975, section 6.3. Spacing 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. (150mm) (Figure 4).

Steel fasteners can be placed using pneumatic or manual tools (Figure 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.



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

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

**Table 1 - Mattress Sizes**

Type	Lacing Wire	Mesh Wire	Selvedge Wire
Mesh Diameter $\phi$ in (mm)	0.087 (2.20)	0.087 (2.20)	0.106 (2.70)
Wire Tolerance ( $\pm$ ) $\phi$ in (mm)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)
Minimum Qty/Zinc oz/ft <sup>2</sup> (g/m <sup>2</sup> )	0.70 (214)	0.70 (214)	0.80 (244)

**Table 3 - Standard Mesh-Wire**

**Quantity Request**

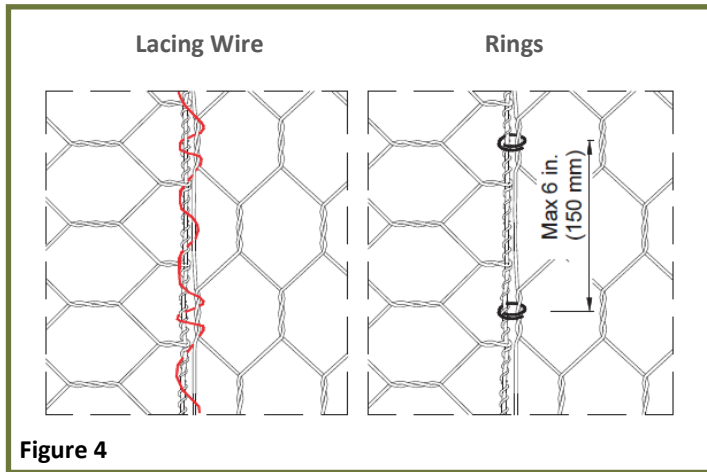
When requesting a quotation, please specify:

- Number of units
- Size of units (length x width x height, see Table 1)
- Type of mesh
- Type of coating

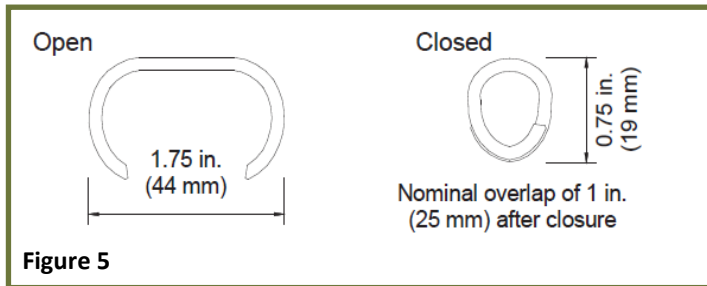
EXAMPLE: No. 100 Reno mattresses, 9x6x9, Mesh type 6x8, Wire diameter 0.087 in (2.20 mm), Galvanized coated.

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

**Table 2 - Standard Mesh-Wire**



**Figure 4**



**Figure 5**



**Figure 6**