

## RENO MATTRESS GALVANIZED

### Product Description

Reno mattress is a double-twisted wire mesh container uniformly partitioned into internal cells with relatively small height in relation to other dimensions, having smaller mesh openings than the mesh used for gabions; interconnected with other similar units and filled with stone at the project site to form flexible, permeable, monolithic channel linings, revetments, scour protections and other erosion control structures (Fig. 1). Standard sizes of Galvanized Reno Mattresses are shown in Table 1.

Reno mattress shall be manufactured and shipped with all components mechanically connected at the production facility except the lid which is produced separately from the base. The diaphragms are created by inserting an upright double-mesh fold in the base panel, which improves the diaphragm stability during filling operations and the hydraulic performance. All perimeter edges of the mesh forming the basket and lid, shall be selvedged with wire having a larger diameter (Table 3).

### Wire

The steel wire used for manufacturing of Galvanized Reno mattresses is heavily zinc coated soft or medium temper steel in accordance with ASTM A975, style 3 coating. The standard specifications of the wire are shown in Tables 2 and 3.

Wire used for manufacturing of Reno mattresses and lacing wire shall have a minimum tensile strength of 60,000 psi (415 MPa) to maximum tensile strength of 80,000 psi (550 MPa) as per ASTM A641/A641M. All tests on wire must be performed prior to manufacturing the mesh and shall comply with ASTM A975 requirements.

### 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 using lacing wire specified in Table 3 and described in Figure 4. Galvanized steel ring fasteners can be used instead of, or to complement, lacing wire (Figure 5 and Figure 6).

Galvanized steel rings for galvanized 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) (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.

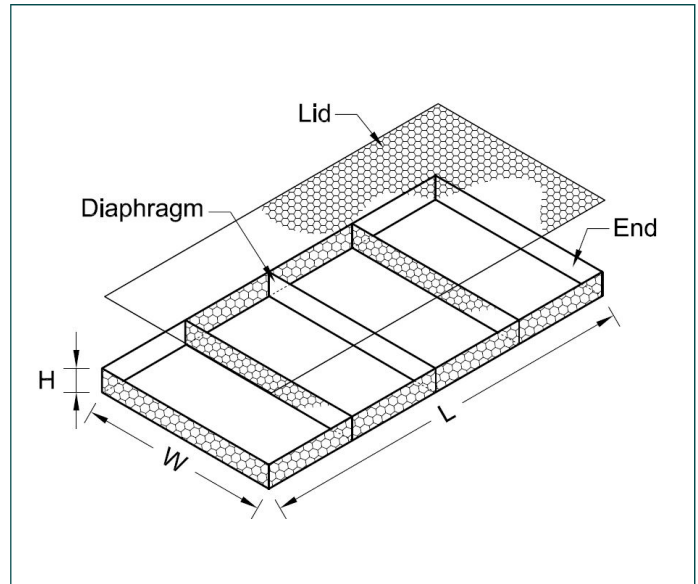
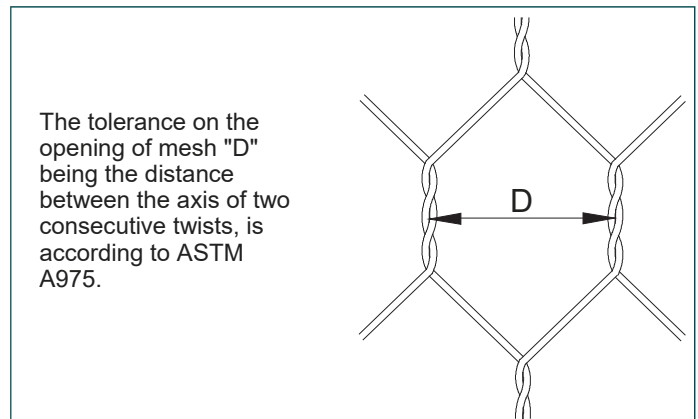


Figure 1



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

Figure 2



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 (2.74)	6 (1.83)	9 (2.74)	6 (150)	3
12 (3.66)	6 (1.83)	9 (2.74)	6 (150)	4
9 (2.74)	6 (1.83)	9 (2.74)	9 (230)	3
12 (3.66)	6 (1.83)	9 (2.74)	9 (230)	4
9 (2.74)	6 (1.83)	9 (2.74)	12 (300)	3
12 (3.66)	6 (1.83)	9 (2.74)	12 (300)	4

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

Galvanized rings for galvanized 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).

The rings can be installed using pneumatic or manual tools (Fig. 5).

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

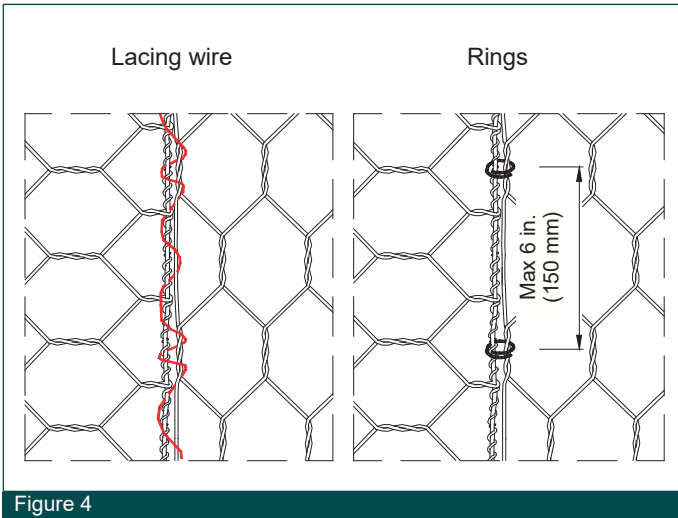


Figure 4

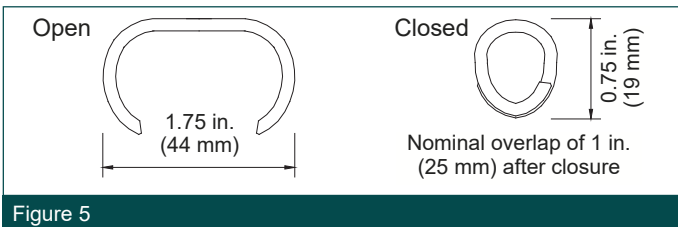


Figure 5

Table 2 - Standard mesh-wire

Type	D in. (mm)	Tolerance	Wire Diameter in. (mm)
6x8 / ZN	2.5 (64)	$\pm 10\%$	0.087 (2.20)

Table 3 - Standard wire diameters

		Lacing Wire	Mesh Wire	Selvedge Wire
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 Quantity of Zinc	oz/ft <sup>2</sup> (g/m <sup>2</sup> )	0.70 (214)	0.70 (214)	0.80 (244)

### 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.

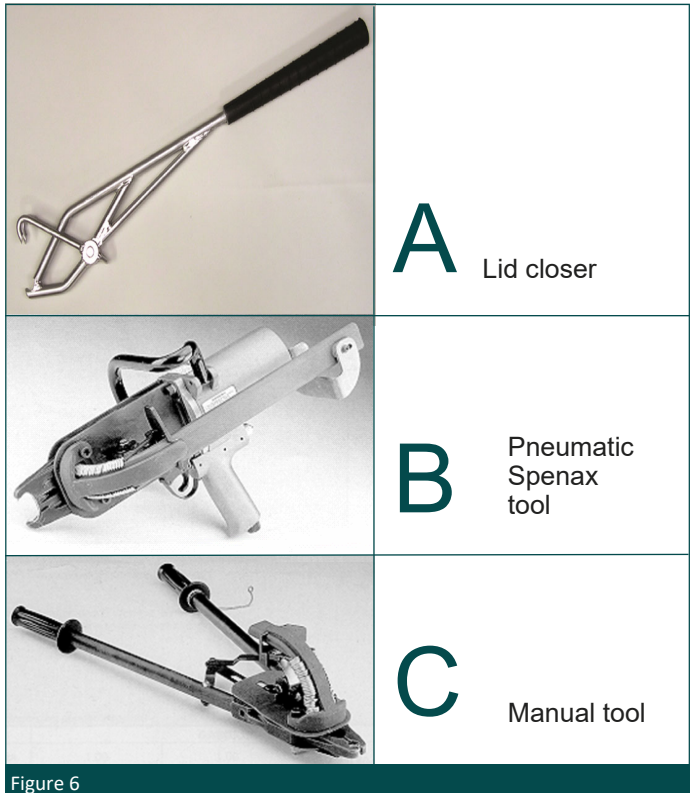


Figure 6

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