

GABION MATTRESS GALVANIZED

The gabion mattress is a structure made of 6x8 double twisted hexagonal woven steel wire mesh type as per EN 10223-3 (Figures 1 and 2). Gabion 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 selvaged with a wire having a greater diameter (Table 3).

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

Wire

All tests on wire must be performed prior to manufacturing the mesh. All wire should comply with EN 10244-2, table 1 class A coating. Wire used for the manufacture of gabion mattresses and the lacing wire, shall have a tensile strength of 350-550 MPa as per EN 10223-3.

Lacing, Assembly and Installation

Gabion 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 Gabion 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).

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

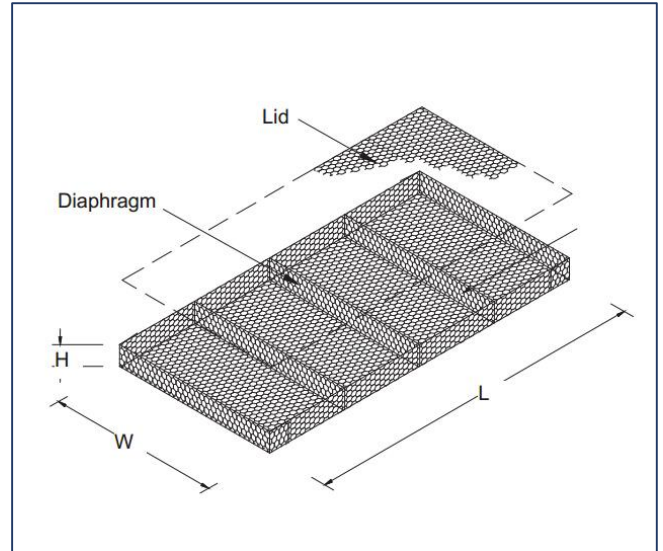


Figure 1

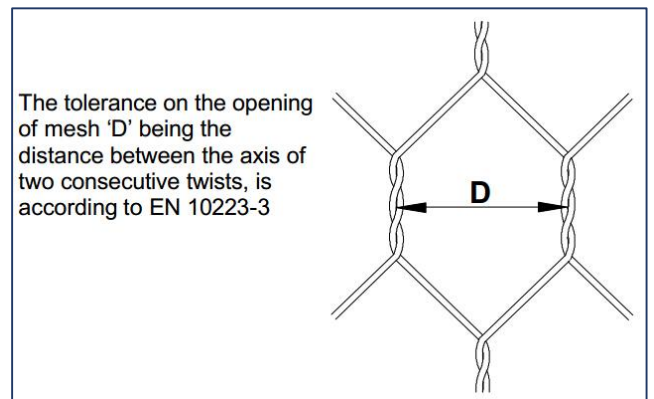


Figure 2



ZHUODA GABION

Table 1 - Sizes for gabion mattress

| L (m) | W (m) | H (m) | # of Cells |
|-------|-------|-------|------------|
| 3 | 2 | 0.15 | 3 |
| 4 | 2 | 0.15 | 4 |
| 3 | 2 | 0.23 | 3 |
| 4 | 2 | 0.23 | 4 |
| 6 | 2 | 0.23 | 6 |
| 6 | 2 | 0.30 | 6 |

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

Table 2 - Standard mesh wire

| Type | D (mm) | Tolerance | Wire Diameter (mm) |
|------|--------|------------|--------------------|
| 6x8 | 60 | -4% - +16% | 2.20 |

Table 3 - Standard wire diameters

| | | Lacing Wire | Mesh Wire | Selvage Wire |
|------------------|---------------------|-------------|-----------|--------------|
| Wire Diameter | ϕ mm | 2.20 | 2.20 | 2.70 |
| Wire Tolerance | (\pm) ϕ mm | 0.06 | 0.06 | 0.06 |
| Min. Qty of Zinc | gr/m ² | 230 | 230 | 245 |



Figure 3

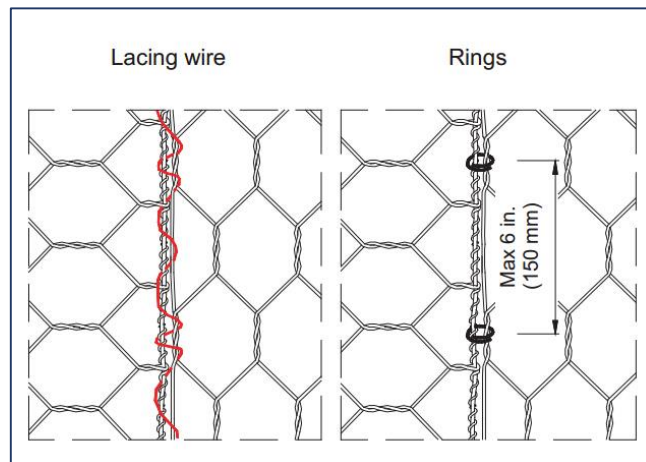


Figure 4

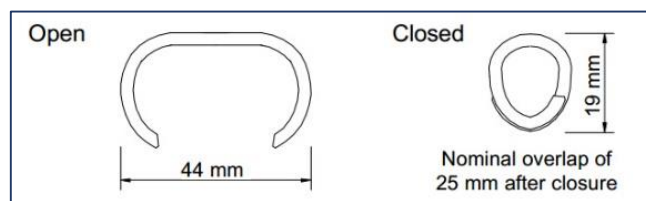


Figure 5



Figure 6

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