LedroSteel Ecobox Gabion

Instructions and information for the proper movement, storage, transportation, assembling and laying.
European Technical Assessment ETA 17/0059

Section 11 paragraph 6 of UE 305/2011 Regulation

1. Usage destination of the product:

the gabion is destined to be used for earth retention and reinforcement, river training, erosion control, free-standing walls, architectural claddings.

2. Handling:

the gabion is made by 6 panels that can be moved alone or alternatively the gabion full of stone material can be moved itself. During the operation of movement, lifting and transport of panels must ensure their integrity avoiding impacts, tears or other sources of damage. All the operations have to be performed according to the indications of D.lgs. 81/08 and subsequent updates.

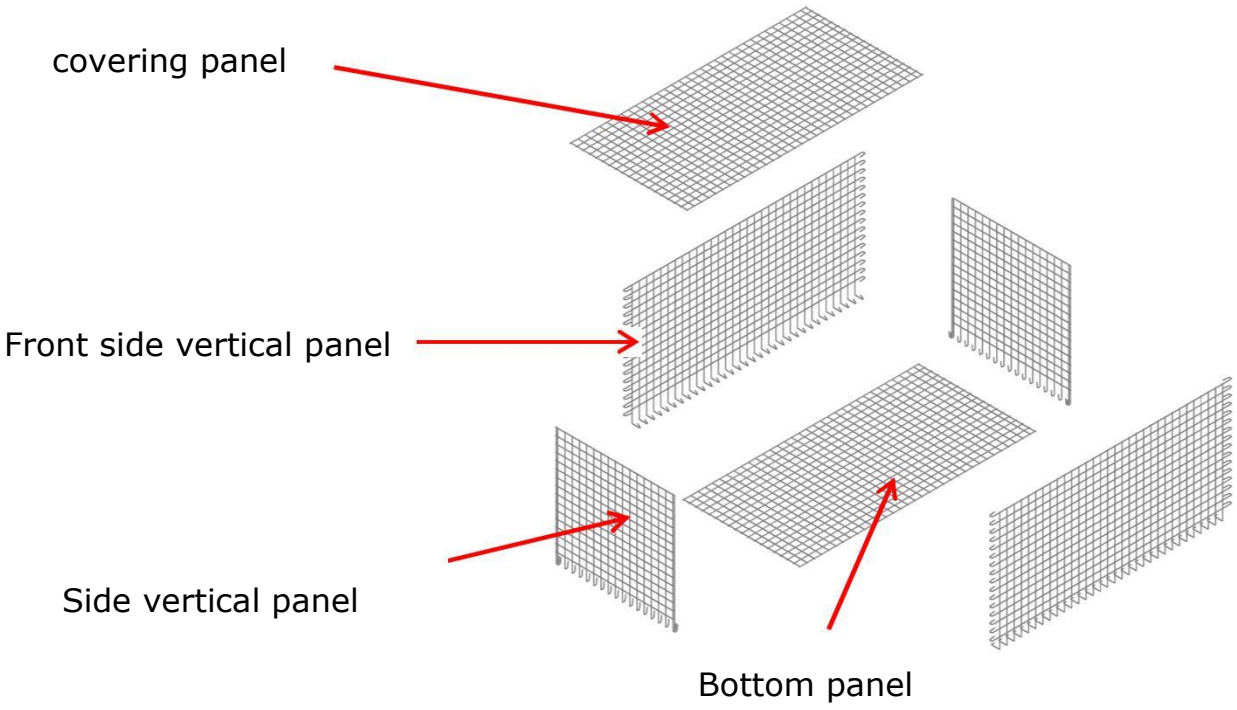

Fig.1 - scheme of the elements that compound the gabion –

3. Lifting:

the gabion can't be lifted while already filled, for convenience the panels that compound the gabion have to be lifted individually. Panels have to be lifted, on proper wooden flatbed, with machines featuring a device for the retention of the charge, as a hook. To this device have to be secured chains or steel ropes, featuring proper accessories for lifting, that can withstand the solicitations caused by the weight of the product, according to the directive 2006/42/CE. All the operations have to be performed according to the indications of D.lgs. 81/08 and subsequent updates.

4. Trasporto: Transportation:

the gabion can't be moved while already filled, for convenience the panels that compound the gabion have to be moved individually. During the transportation, the gabions filled with stone material have to be positioned in piles and insured with suitable cables, according to the norms that regulate the safety of transport and the highway code.

5. Storage:

the storage of the single panels that compound the gabion have to take place positioning them in piles made by subsequent layers endorsed on wooden flatbeds. The laying surface for the piles have to be leveled and compact. All the operations have to be performed according to the indications of D.lgs. 81/08 and subsequent updates.

6. Lying in place:

for the lying in place, gabions have to be positioned in plan and in assess as verified from the general planner of the structures (Law 5/11/71 n 1086-norm3/9) without exceeding the permitted loads. All the operations have to be performed according to the indications of D.lgs. 81/08 and subsequent updates.

7. Use and maintenance:

eventual information about the use and maintenance have to be edited by the general planner of the structures (law 5/11/71 n 1086- art3/9) without exceeding the admissible loads. All the operations have to be performed according to the indications of D.lgs. 81/08 and subsequent updates.

8. Istruzioni Instruction for the correct assembling of the gabions:

gabions are made by 6 panels that have to be connected with the specific hook they are equipped with. Side vertical panels have to be connected to the base panel in correspondence of their inferior extremity through a hook for every vertical rod. Hooks are J-shaped and have to be jammed in correspondence of the third horizontal wire of the base panel, as shown in fig.2 and fig.3.

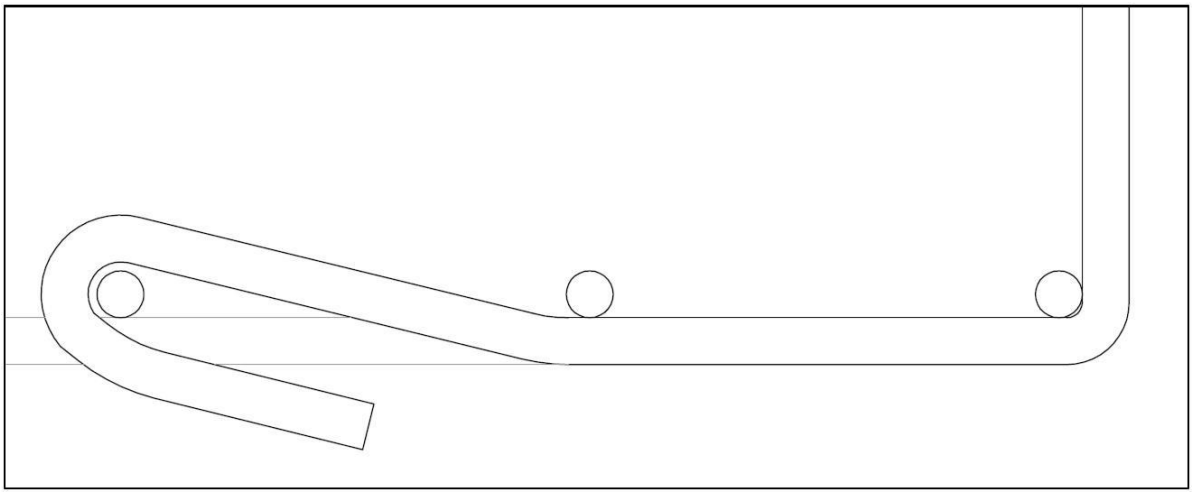

Fig.2 – particular J-shaped hook

Fig.3 – particular J-shaped hook –

The ends of the vertical panels have to be connected to the base panel of the gabions in correspondence of their inferior extremity through a hook for every vertical rod. Hooks are U-shaped and have to be jammed in correspondence with the first horizontal wire of the base panel, as shown in fig.4 and fig.5.

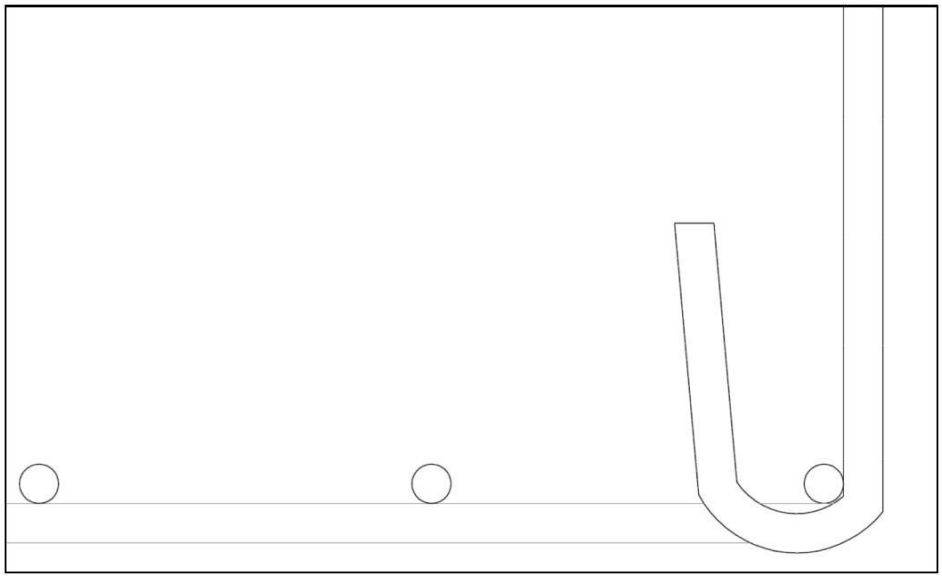

Fig.4 – particular U-shaped hook –

Fig.5 – particular U-shaped hook –

Side vertical panels have U-shaped hooks for every horizontal rod. These hooks have to be jammed in the first vertical wire of the ending vertical panels as shown in fig.6 and fig.7.

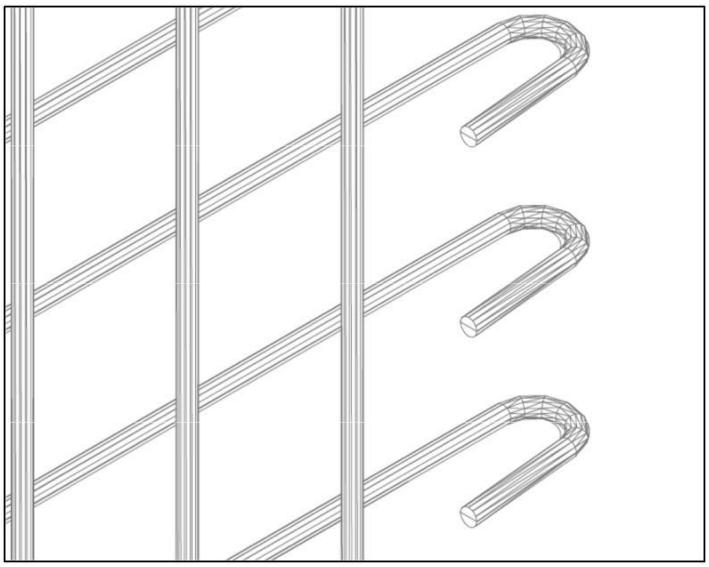

Fig.6 – particular U-shaped hook for side connections between panels –

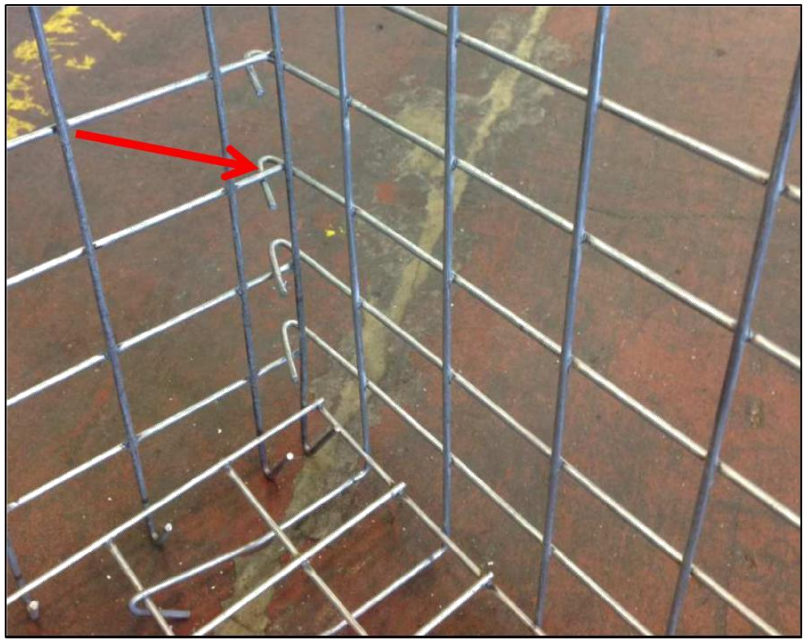

Fig.7 – particular U-shaped hook for side connections between panels –

8.1 Internal rods for the connections between vertical panels:

Vertical panels, both on the long side and the short side, have to be connected in pairs, through steel rods bent at the extremity forming two U-shaped hooks that have to be jammed in correspondence of the horizontal wire, as shown in fig.8 and fig.9.

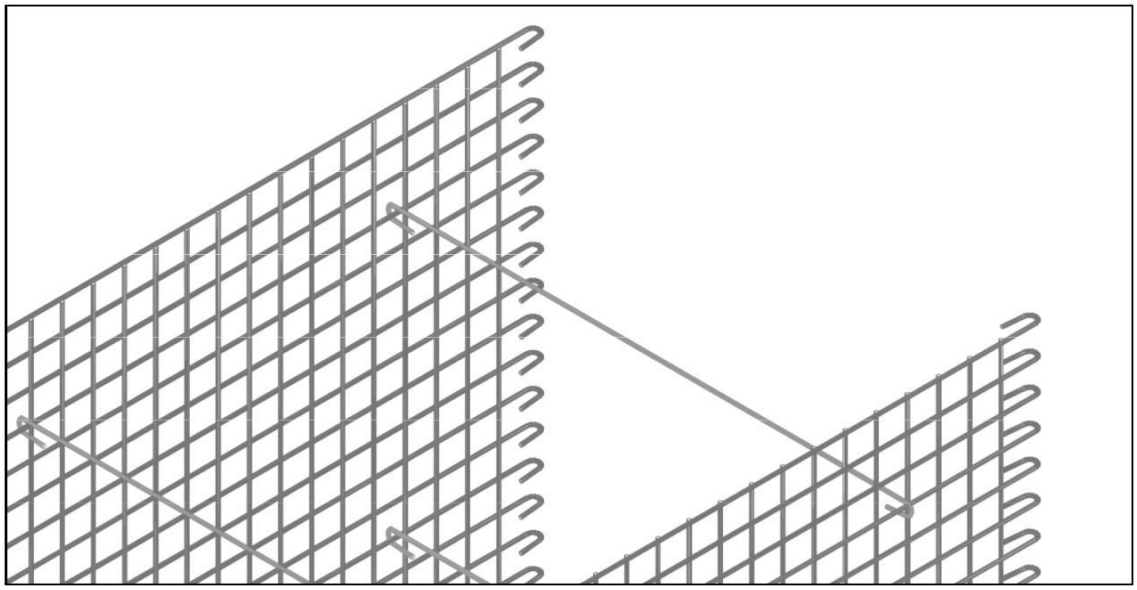

Fig.8 – particular rods for side connections between panels –

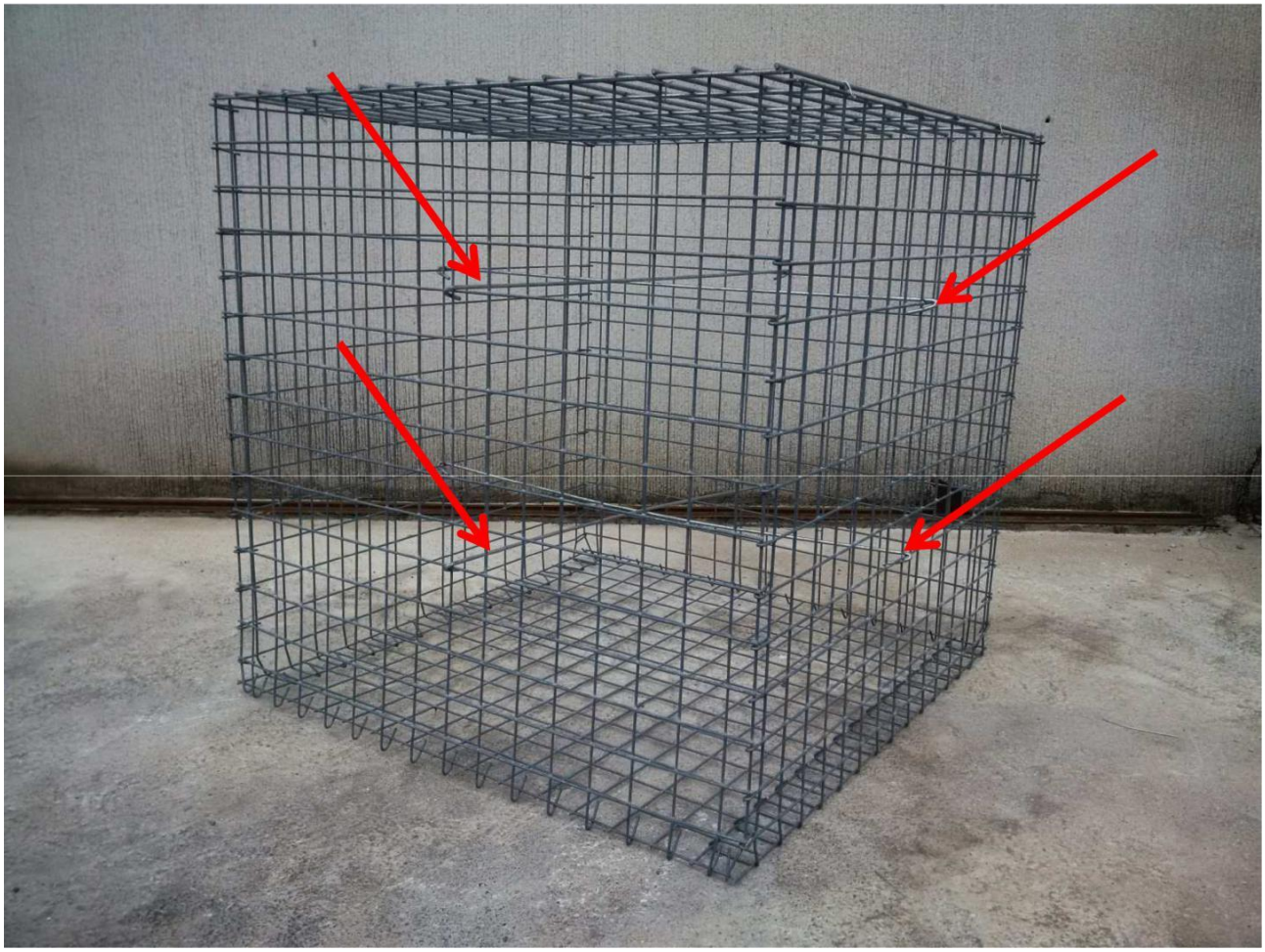

Fig.9 – gabion with highlighted rods for side connection between panels –

Fig.10 - rod –

The number of rods and their position depends from the size of the gabion:

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- Panel h100xL100 cm 2 rods jammed on the sixth and twelfth horizontal wire from the bottom, in correspondence of the central vertical wire;

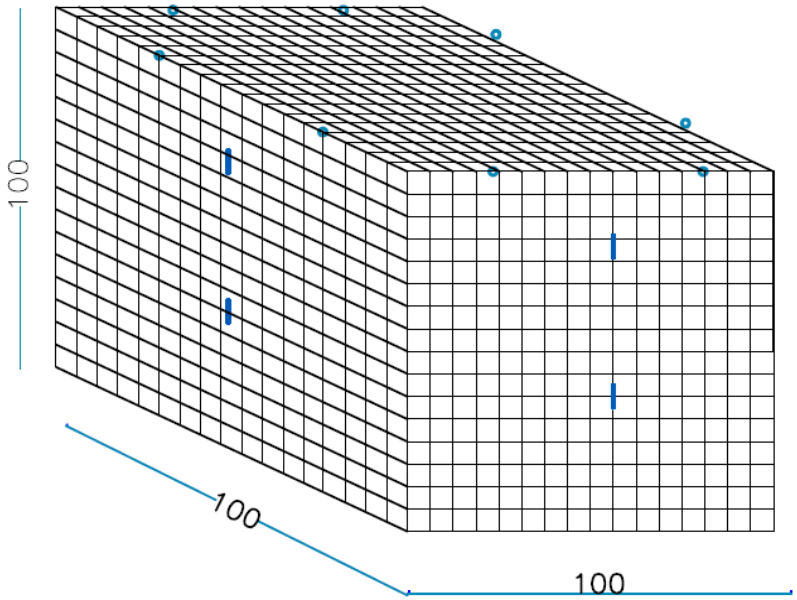

Fig.11 - position of rods and rings

GAB0410050100

- Panel h100xL100 cm 2 rods jammed on the sixth and twelfth horizontal wire from the bottom, in correspondence of the central vertical wire;
- Panel h100xL50 cm, 2 rods jammed on the sixth and twelfth horizontal wire from the bottom, in correspondence of the central vertical wire;

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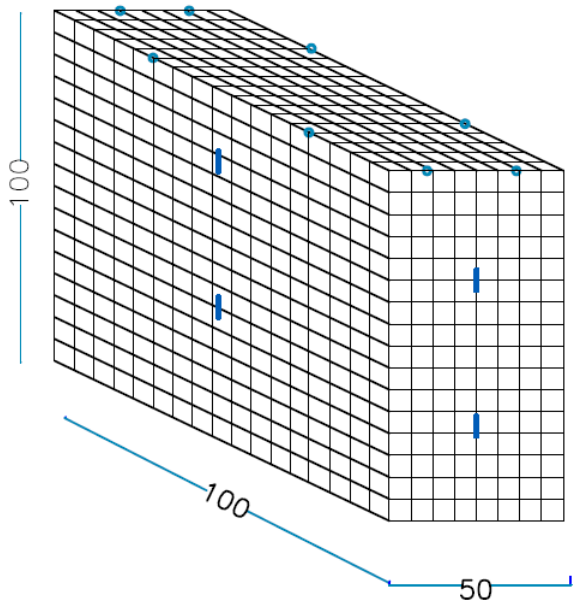


Fig.12 - position of rods and rings

GAB0410010050

- Panel h50xL100 cm, 2 rods jammed on the fourth horizontal wire from the bottom, in correspondence of the central vertical wire;

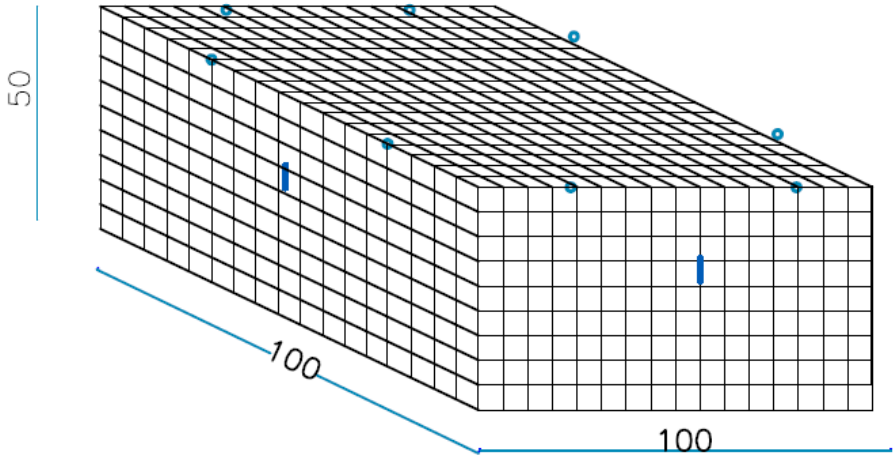


Fig.13 - position of rods and rings

GAB041005050

- Panel h50xL100 cm, 1 rod jammed on the fourth horizontal wire from the bottom, in correspondence of the central vertical wire;
- Panel h50xL50 cm, 1 rod jammed on the fourth horizontal wire from the bottom, in correspondence of the central vertical wire;

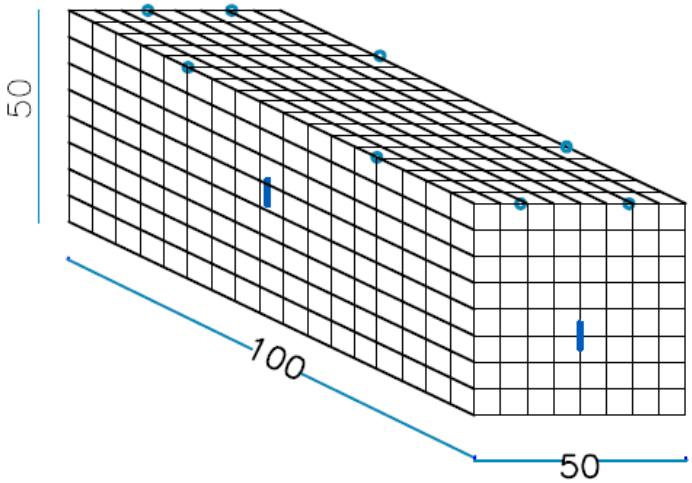


Fig.14 - position of rods and rings

GAB04200100100

- Panel h100xL200 cm 3 rods jammed on the sixth and twelfth horizontal wire from the bottom, and in correspondence of the eighth, sixteenth and twenty-fourth starting from left side vertical wire;
- Panel h100xL100 cm 2 rods jammed on the sixth and twelfth horizontal wire from the bottom, in correspondence of the central vertical wire;

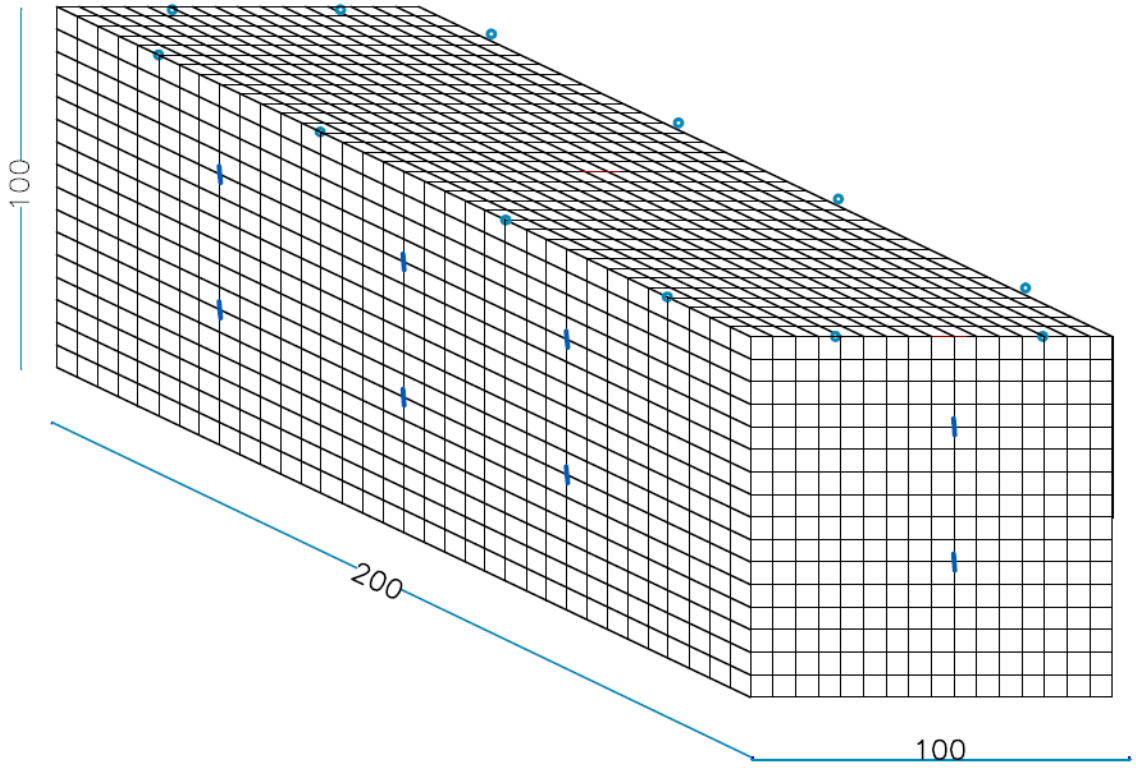


Fig.15 - position of rods and rings –

GAB0420050100

- Panel h100xL200 cm 3 rods jammed on the sixth and twelfth horizontal wire from the bottom, and in correspondence of the eighth, sixteenth and twenty-fourth starting from left side vertical wire;
- Panel h100xL50 cm 2 rods jammed on the sixth and twelfth horizontal wire from the bottom, in correspondence of the central vertical wire;

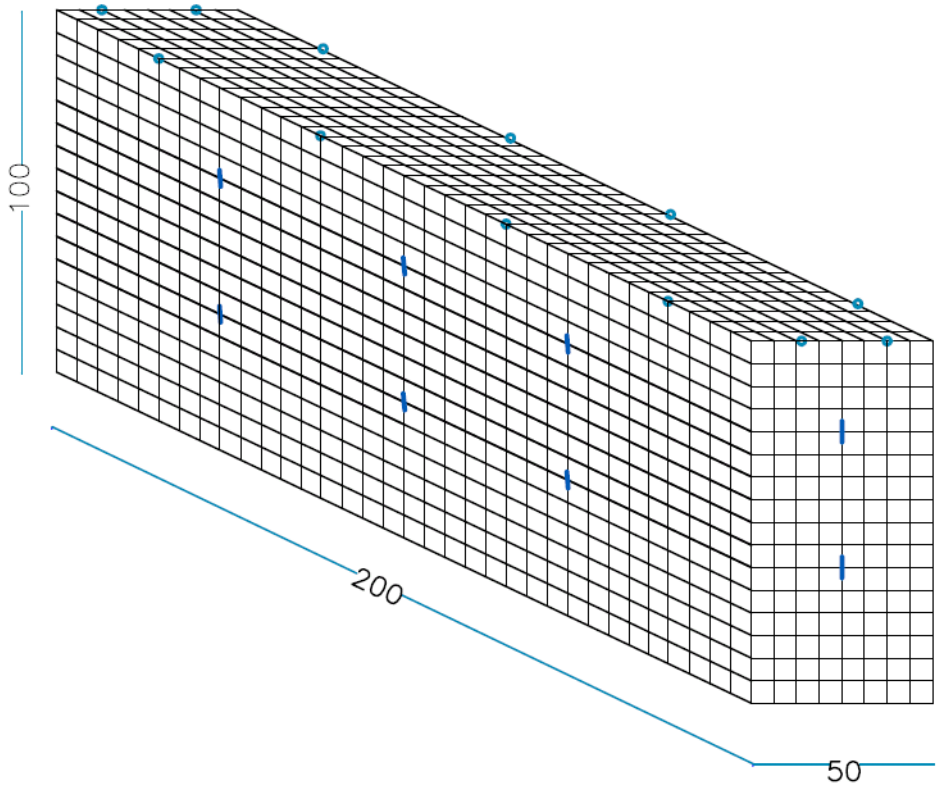


Fig.16 - position of rods and rings –

GAB0420010050

- Panel h50xL200 cm 3 rods jammed on the sixth horizontal wire from the bottom, and in correspondence of the eighth, sixteenth and twenty-fourth starting from left side vertical wire;
- Panel h50xL100 cm 1 rod jammed on the sixth horizontal wire from the bottom, in correspondence of the central vertical wire;

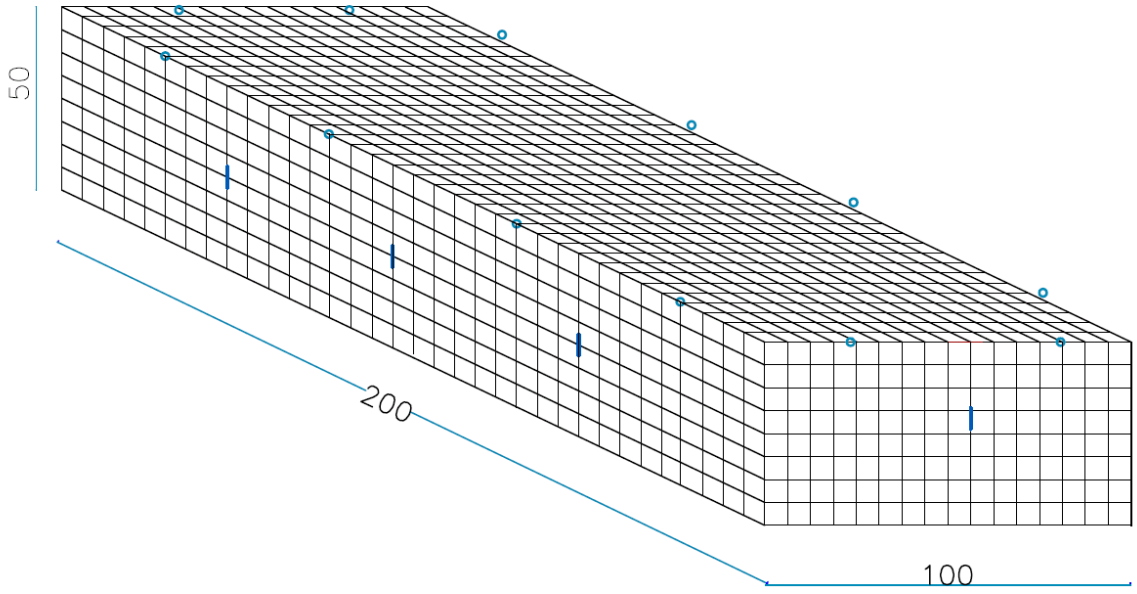


Fig.17 - position of rods and rings –

GAB042005050

- Panel h50xL200 cm 3 rods jammed on the sixth horizontal wire from the bottom, and in correspondence of the eighth, sixteenth and twenty-fourth starting from left side vertical wire;
- Panel h50xL50 cm, 1 rod jammed on the fourth horizontal wire from the bottom, in correspondence of the central vertical wire;

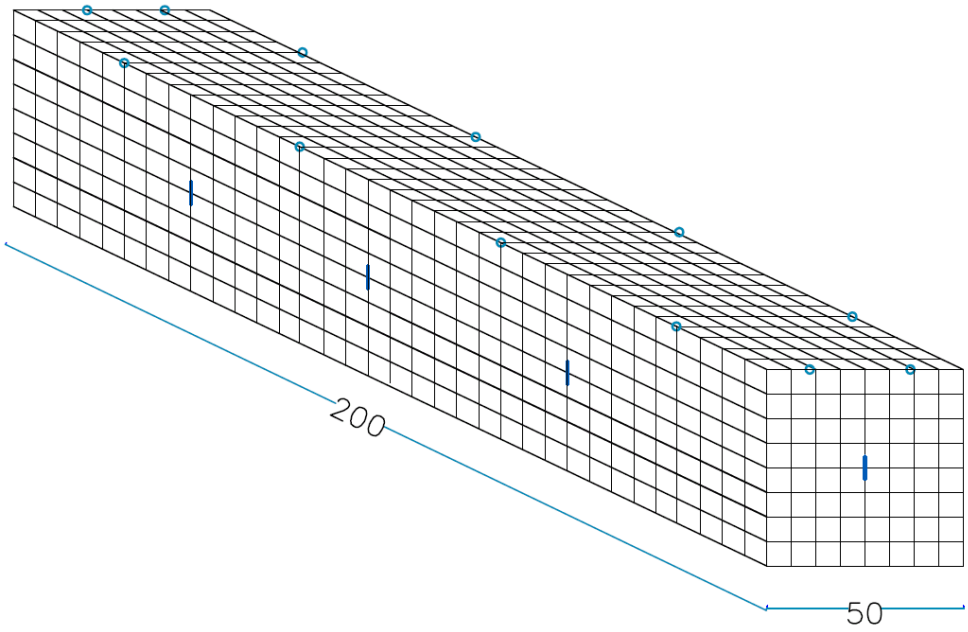


Fig.18 - position of rods and rings –

8.1 Rings to secure the cover to the vertical panels:

After the gabions got filled, the cover panel have to be secured with steel rings, assured with a stapler, to the underlying vertical panels.

Fig.19 - stapler –

The number of the rings and their position depend from the size of the gabion at a distance of 20 and 30 cm between one and the other:

GAB04100100100 total 6 rings, positioned as shown in fig.11, two on each side

GAB0410050100 total 6 rings, positioned as shown in fig.12, two on each side

GAB0410010050 total 6 rings, positioned as shown in fig.13, two on each side

GAB041005050 total 6 rings, positioned as shown in fig.14, two on each side

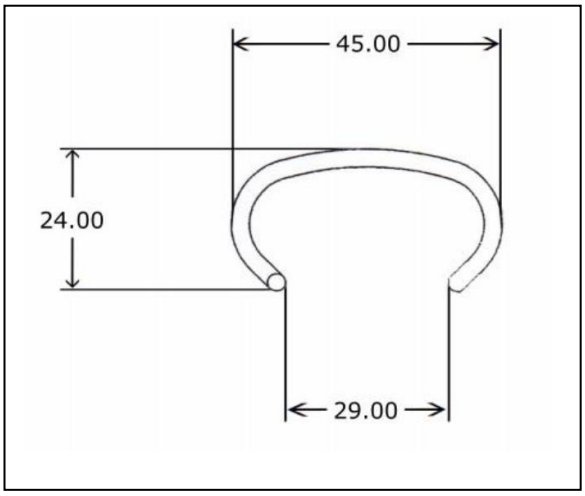
GAB04200100100 total 12 rings, positioned as shown in fig.15, four on the long and two on the short side;

GAB0420050100 total 12 rings, positioned as shown in fig.16, four on the long and two on the short side;

GAB0420010050 total 12 rings, positioned as shown in fig.17, four on the long and two on the short side;

GAB042005050 total 12 rings, positioned as shown in fig.18, four on the long and two on the short side;

Type of rings and technical features:



WIRE PROPERTIES:

Material: Steel
Diameter: 3.00 mm.
Coating: Zn 95% - Al 5%
Minimum coating: 275 g/m^2
Minimum strength: 1720 MPa