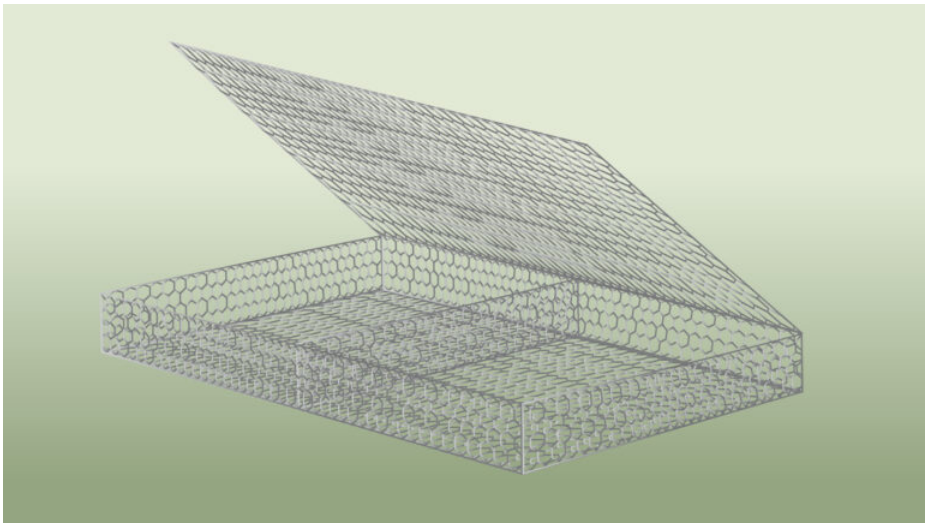
Gabion Mattress Installation

Last updated 28 October 2026

Below you will find a step by step guide on gabion mattress installation.



- **Experience Required:** Medium
- **Tools Required:** Protective gloves, Wire cutters
- **Materials Required:** Gabion Mattress, PVC coated lacing wire, Gabion stone, Geotextile (optional)

Step 1) Prepare the Foundation



- Start by preparing the area.

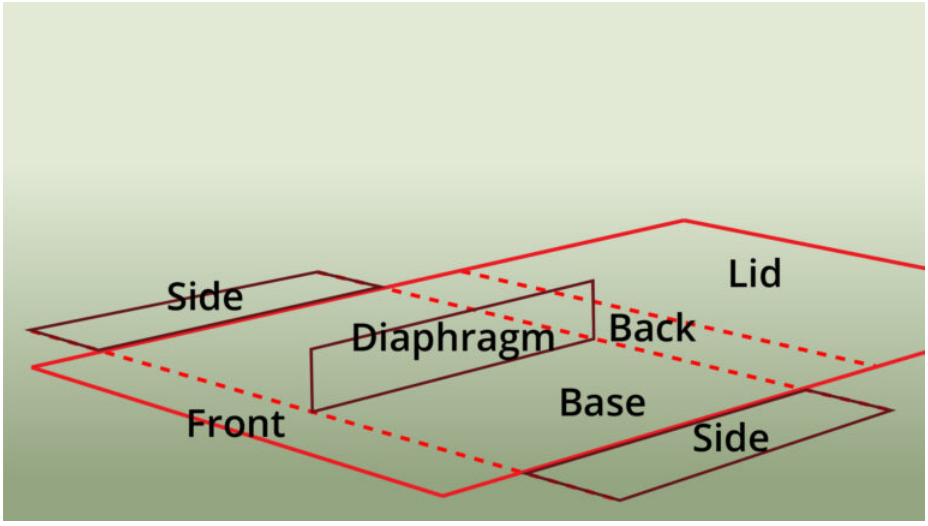
- Remove any debris and make sure the surface is even and firmly compacted to create a solid foundation for the cage.

Step 2) Add Geotextile (Optional)



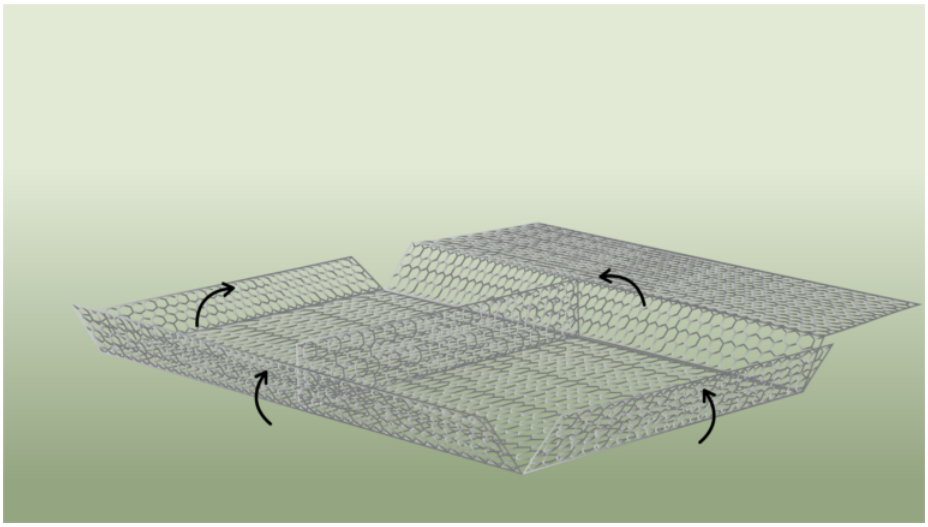
- For added stability and erosion control, you may choose to lay down a geotextile over the prepared surface before placing the gabion mattresses.

Step 3) Unfold the Mattress



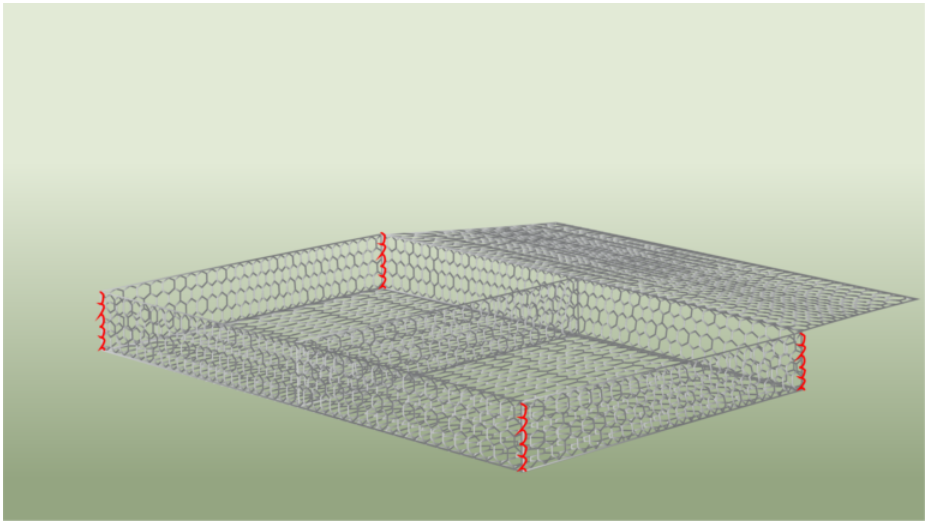
- Unfold the gabion mattress on a flat, solid surface.
- The base, front, back and lid are made from one continuous piece of mesh.
- The two sides and diaphragm(s) are secured to the base using a full length of lacing wire.

Step 4) Assemble Gabion Mattress



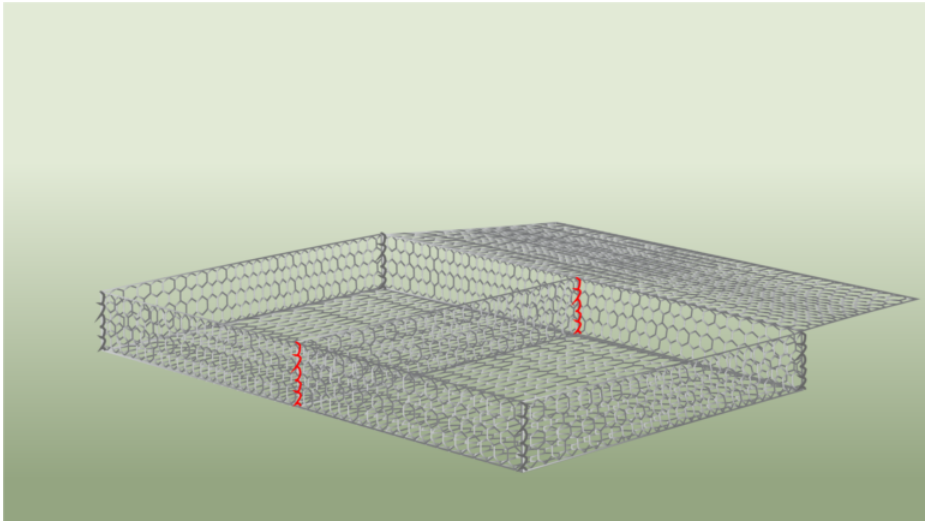
- Lift the front, back and both side panels to form a box shape.

Step 5) Secure with Lacing Wire



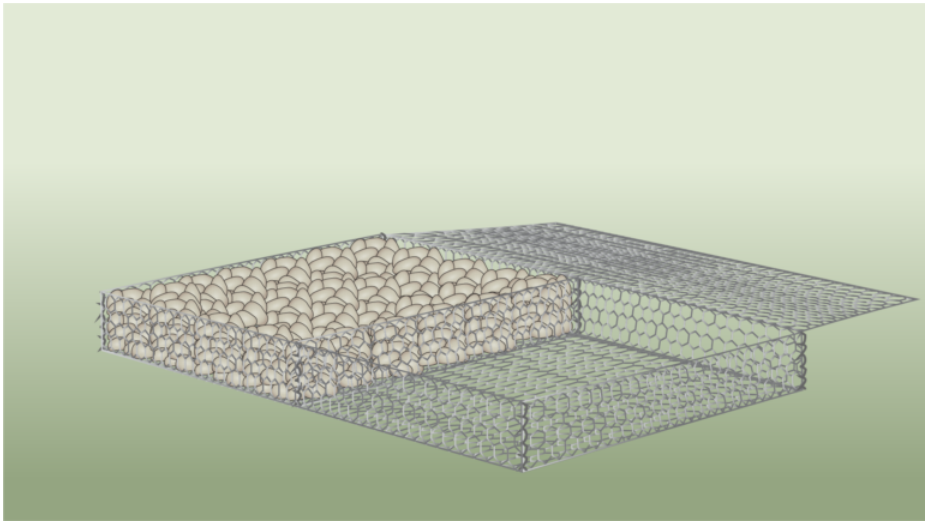
- Secure the lacing wire to the top corners of the panels, then weave it down along the edges.
- Use double and single loops spaced approximately 10cm apart along the wire mesh openings.
- Alternatively, use C-rings to fasten the panels.

Step 6) Secure the Diaphragm



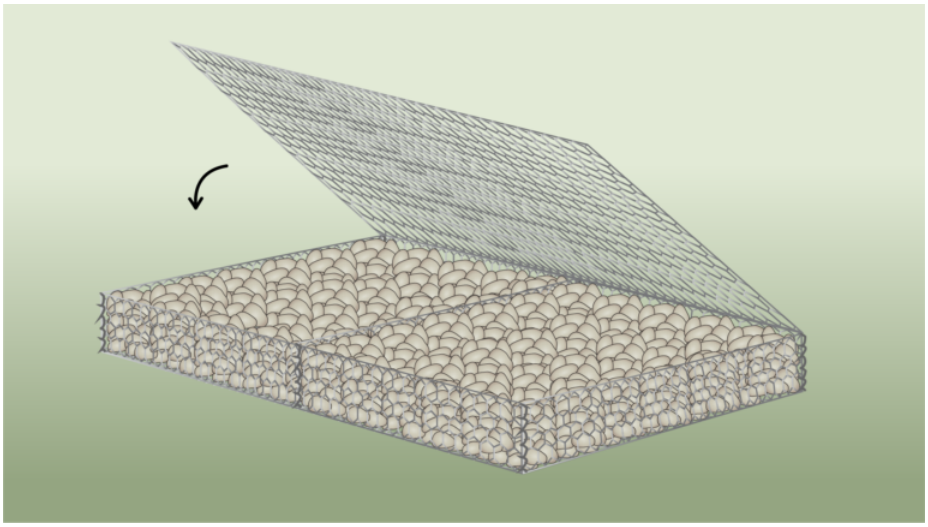
- Connect the diaphragm(s) to the side panels and secure them firmly using lacing wire.

Step 7) Fill with Stone



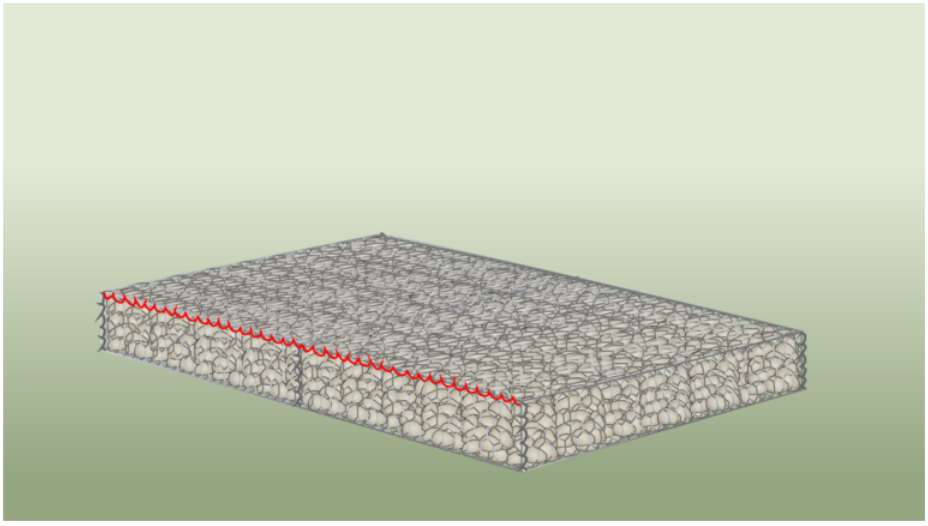
- Start filling the gabion mattress with stones of suitable size (minimum 80mm x 80mm).

Step 8) Close the Lid



- Fold the lid panel over the filled mattress, making sure it fits tightly over the stones.

Step 9) Attach the Lid



- Make sure the lid panels are tightly secured to the gabion mattress by fastening them with lacing wire or C-rings, following the same method used for the edges.

Tips and Tricks

Before starting your gabion mattress project, it's important to plan carefully and consider a few key factors. The points below are based on our team's experience designing and installing gabion mattresses.

- The spacing between diaphragms (separation panels) should not exceed 1 metre along the length of the units.
- Unfold the gabion mattress on a flat, solid surface.
- For use on slopes, begin filling the cells from the bottom.
- When overlapping geotextiles, make sure there is a minimum overlap of 30cm.
- C-rings can be used as an alternative to lacing wire.
- Fill the cage with angular, interlocking stones that are at least 80mm x 80mm in size.
- Vary gabion mattress sizes depending on your project requirements.
- Gabion mattresses on riverbanks, steep slopes or anywhere they protect against flowing water should be designed by a structural or civil engineer.
- If you're working on or near a river or stream, you may need permission first. In England this comes from the Environment Agency for main rivers, or your local council or internal drainage board for other watercourses.

FURTHER READING

- How to Install Gabion Baskets – A guide showing you how to assemble baskets.
- How to Fill Gabions – Learn how to fill cages.
- How to Lace Gabion Baskets – Step by step instructions on how to lace baskets.
- How to Build a Gabion Retaining Wall – Learn how to build a retaining wall.
- Gabion Learning Hub – a library of help videos

VIDEO

Video: Watch the video on YouTube

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Written By

This blog was created by our Technical Illustrator, Timi Szabo, and reviewed by our Founder, John Marlen-Summers.

Below you'll find examples of our real-life gabion mattress builds, along with customer projects. We've opted for technical illustrations for the instructions found in this blog because they provide better clarity on mesh placement and structural details that can get lost in real-life photography.

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John assembling a gabion mattress for a demonstration video.

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A customer project featuring a gabion mattress river bank.

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A large gabion mattress project for erosion control.