



# Terra Mesh



Built On Trust, Woven With Strength



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# CONTENTS

## Terra Mesh

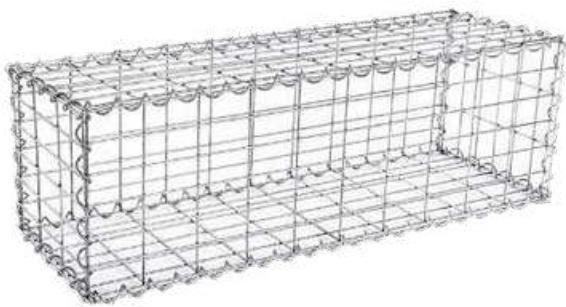
- Company Profile |-----• 02
- Product Overview |-----• 04
- Feature & Specification |-----• 05
- Standard |-----• 06
- Technical Parameter |-----• 07
- Assembly and Erection |-----• 10
- Package and loading |-----• 10
- Installation process |-----• 11
- Application |-----• 12

## Company Profile

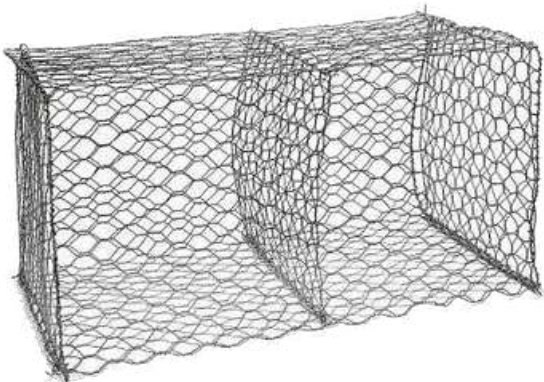


TERRA MESH is a professional gabion meshes supplier in INDIA. We are professionally engaged in the production and export of all kinds of woven and welded gabions for defense and decoration. Our company has owned all kinds of weaving and the number of machines is 20 and 40 staff members ensure high production efficiency and low production loss. More than 20 research and development department workers have been developing more products suitable for customers' requirements and market trends.

**Gabion mesh box** is a woven or welded wire container like cylinder and box that can be filled with stones, rocks, gravels and concrete. Woven gabion mesh is mainly used for soil erosion control, bank stabilization and river training in civil engineering. And welded gabion mesh is mainly used to decorate gardens, yards and homes in landscape architecture. The rustic appearance of gabion mesh wall brings a special and comfortable feeling to citizens who are bored with concrete structure.



Welded Gabion Box



Hexagonal Mesh Gabion Box

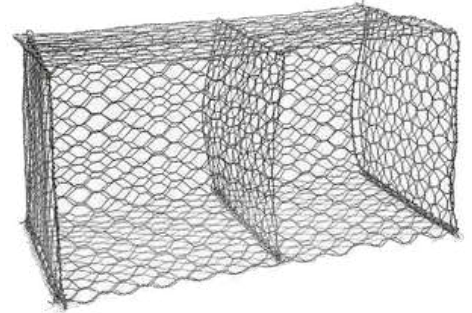
The lifespan of the gabion structure depends on the durability of the wire. The wire that we commonly used is galvanized wire, which has good properties of corrosion resistance and rust resistance even in wet environment. Except for that, the performance of PVC coated wire and galfan coated wire is better than galvanized wire, and the lifespan is also longer.

In addition, according to the different height, no matter welded gabions or hexagonal mesh gabions both can be divided into gabion box and gabion mattress. Gabion mattress is a short gabion basket with flat shape, it is mainly used in the low-lying areas such as rivers and dams.

## Hexagonal mesh Gabion Box

HEXAGONAL MESH GABION BOX is a container that made by weaving the wire into a hexagonal mesh. It is divided into several cells by inserting diaphragms every meter. The different parts of it are connected by the lacing wire. And the hexagonal mesh is reinforced by the thicker selvedge wires for higher bearing capacity and longer lifespan. In addition, hexagonal mesh gabion box has huge deform ability, so it can be easily amended on site to suit project requirements.

Hexagonal mesh gabion box is mainly used for protecting river and dam from the losing of soil and water. Because compared with welded gabion box, there are no welding point on hexagonal mesh gabion box, which can resist the erosion from flood and sea water. Additionally, the twisted structure can supply higher tensile strength to be used in the heavy duty applications.



| Hexagonal mesh gabion box

In our 5000 square meter gabion production workshop, TERRA MESH has 3 advanced machines for gabion mesh weaving. All our machines are in good condition and efficient. We can deliver 70 tons of gabion mesh within a week time. Urgent order request will be proper treated in our production arrangement.



*Raw material*



*Weaving*



*Cutting*



*Assembling*

## Feature

- Galvanized wire makes it possible exposed to water without rusting.
- High bearing capacity, edges will not unravel or unzip.
- Huge deform ability to suit special space.
- Excellent performance in accommodating different settlements.
- Easy and quick installation.

## Specification

### Regular Specification of Hexagonal Mesh Gabion Box

Item	Materials	
	Galvanized	PVC Coated
Mesh (mm)	60 × 80, 80 × 100, 100 × 120	60 × 80, 80 × 100, 100 × 120
Mesh Wire (mm)	2.2, 2.7, 3.0, 3.2, 3.7	2.2, 2.7, 3.0, 3.2, 3.7
Selvedge Wire (mm)	3.0, 3.4, 3.8	3.0, 3.4, 3.8
Lacing Wire (mm)	2.2	2.2

### Regular Size of Hexagonal Mesh Gabion Box

Item	Lengthm	Widthm	Heightm	Cell Nos	Volume
	m	m	m		m3
HGBT-01	2	1	1	2	2
HGBT-02	3	1	1	3	3
HGBT-03	4	1	1	4	4
HGBT-04	2	1	0.5	2	1
HGBT-05	3	1	0.5	3	1.5
HGBT-06	4	1	0.5	4	2
HGBT-07	2	1	0.3	2	0.6
HGBT-08	3	1	0.3	3	0.9
HGBT-09	4	1	0.3	4	1.2

## Standard

### ASTM Standard

- A975 - 11

Standard Specification for Double-Twisted Hexagonal Mesh Gabions and Revet Mattresses.

- A641 / A641M - 09a

Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.

### BS Standard

- BS EN 10223-2

Steel wire and wire products for fencing and netting. Hexagonal steel wire netting for agricultural, insulation and fencing purposes

- BS EN 10223-3

Steel Wire and Wire Products for Fencing and Netting - Part 3: Hexagonal Steel Wire Mesh Products for Civil Engineering Purposes.

- BS 1052:1980

Specification for mild steel wire for general engineering purposes.

Our Tolerance Standard: on the hexagonal double-twisted wire mesh, size of opening should not exceed  $\pm 5\%$  on the nominal dimension.

# Technical Parameter

## Wire

- **Tensile strength.**

The tensile strength of the wire used for the production of gabion and the lacing wire should be 350-500 N/mm<sup>2</sup> according to IS 16014.

- **Tolerance.**

Tolerance of wire shown at Tab.2 meet the requirements of IS 16014.

- **Elongation.**

Elongation shall not be less than 10% according to IS 280.

- **Zinc coating.**

The minimum quantities of Zinc shown at Tab.2 meet the requirements of IS 4826.

## Zinc Coated Gabion Box

- **Material.**

Mild steel heavily galvanized wire.

- **Structure.**

hexagonal double twisted wire mesh, and it is divided into cells by means of diaphragms positioned at 1 m center. (Fig 1 and Fig.2)

- **Standard combinations mesh/wire.**

**Type:** 100 mm × 120 mm.

**Wire diameter:** 2.7 mm, 3.7 mm (PVC coated).

**D:** 100 mm

**Tolerance:** +16%, -4%.

- **Diameter.**

Mesh wire diameter: 2.7 mm Selvedge wire diameter: 3.4 mm Lacing wire diameter: 2.2 mm.

- Dimensions and tolerances on sizes are shown at Tab.1.

## PVC Coated Gabion Box

- **Specific weight**

In the range from 1.30 to 1.35 when tested in accordance with IS 13360

- **Tensile strength**

Not less than 20.6 MPa when tested in accordance with IS 13360

- **Elongation**

between 200% and 280%, according to IS 13360

- **Hardness**

Shore 'D' between 50 and 60, when tested in accordance with IS 13360

- **Weight loss**

less than 5% after 24 hours at 105 °C, with IS 13360

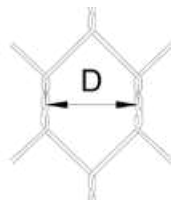
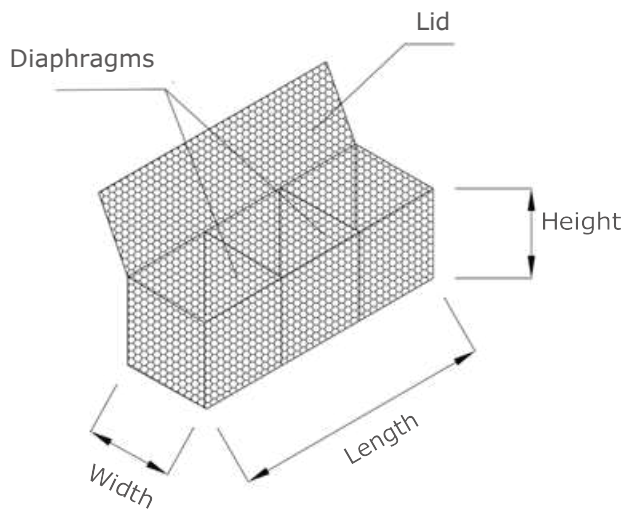
- **Adhesion of Zinc Coating**

The zinc coating shall remain adherent to the steel wire and conform to IS 4826 such that zinc coating does not flake off, nor crack to such an extent that there is possibility of removing any zinc by rubbing with bare fingers, the use of fingernails being not allowed.



Length(m)	Width(m)	Height(m)	Tolerance
2	1	0.5-1	Length: ± 5% Width: ± 5% Height: ± 5%
2	1	0.5-1	
4	1	0.5-1	
1.5	1	1	

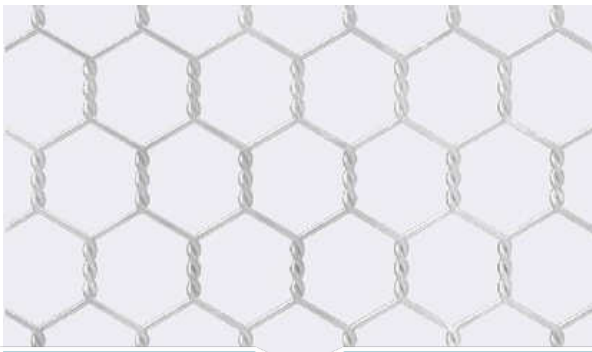
Mesh Wire Diameter mm	Tolerance of Wire Diameter (+,-)	Mass of Zinc Coating gr/m <sup>2</sup>
2.00	0.05	240
2.20	0.06	240
2.40	0.06	260
2.70	0.07	260
3.00	0.08	270
3.40	0.09	270
3.90	0.10	280



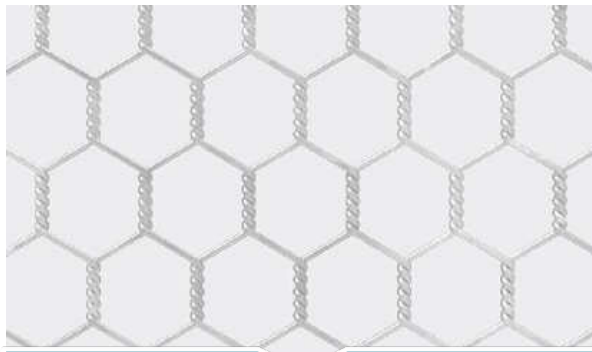
**MESH TOLERANCE** The tolerance on the opening of mesh "D" being the distance between the axes of twist, is according to IS 16014

## Different classification

- According to the twist type

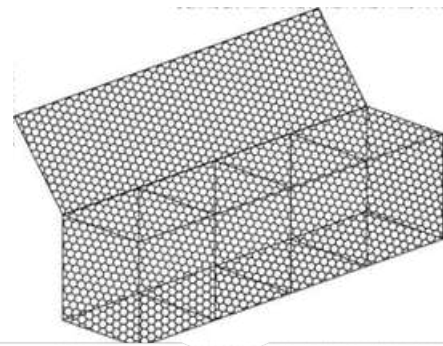


*Double twisted hexagonal mesh*

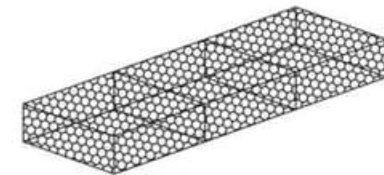
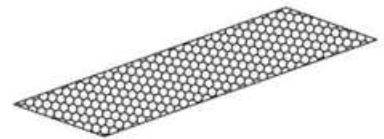


*Triple twisted hexagonal mesh*

- According to the height



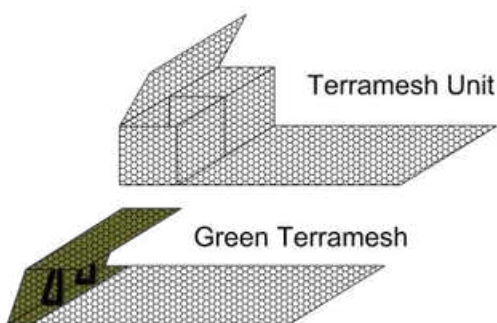
*Gabion box*



*Gabion mattress*

- Extended products

Terra mesh : this type is particularly applied as slope forming. Faced by gabion and reinforced by roll mesh, terra mesh gives the slope project firm soil stabilization property.



*The drawing of terra mesh*



*Terra mesh application*

## Assembly and Erection

### IS Standard

- Unfold the panels, erect corners and diaphragms and bind them to the side panels.
- Lacing wire is supplied together with the gabion. For a correct lacing operation, the wire should be passed through each mesh, making a double twist every other mesh (Fig.3).
- Steel rings can be instead of lacing wire (Fig.4-5), it has the following specifications:  
Diameter: 300 mm.  
Tensile strength: 170 kg/mm<sup>2</sup>.  
Zinc coated rings for Zinc coated and for plastic coated products...
- Fill the gabion with stones, whose minimum size is not less than dimension "D" of mesh, and maximum size is about 2.5 times "D". Bigger stones are accepted if their total volume does not exceed 5% of the cell volume.
- Check filling at the corners. Compaction is not necessary.
- Bind the lid down with the usual lacing operation.

Note: all gabion must be connected to each other along all corners with the same lacing operation.

Fig.3

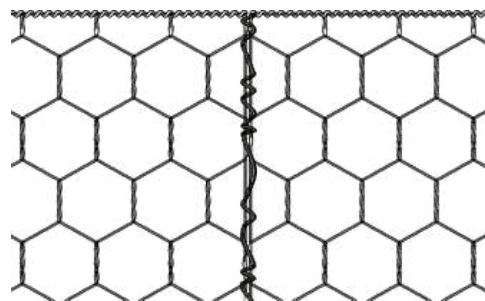


Fig.4

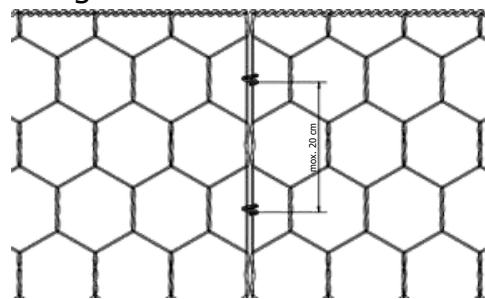
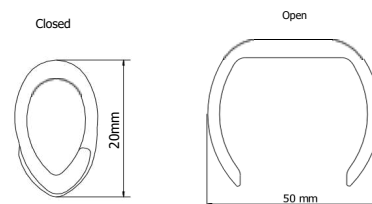


Fig.5



## Package and loading

For easy handling and transportation, gabion box is usually shipped in bundle. First, the gabion box is folded and pressed into bundle, and then strapped with steel or nylon bandage. In this way, the gabion box package is in smallest dimension with suitable unit weight. Gabion is usually placed into 40 ft. container to maximize the freight cost.



Folded and pressed into bundle



Strapped with bandage



Loading



Transportation

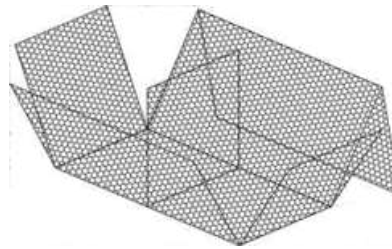
## Installation process



*Prepare Materials*

**1**

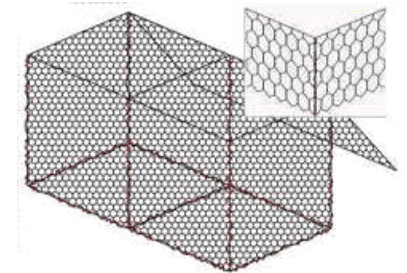
Prepare all needed gabion panels and lacing wires



*Erect Each Section Up*

**2**

Erect front, back and all diaphragms vertically.



*Fasten with lacing wire*

**3**

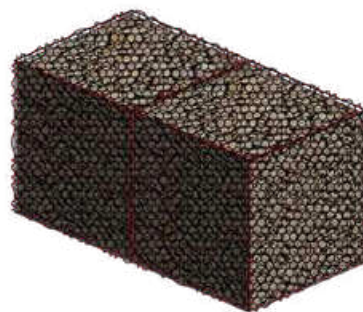
Fasten and secure each panels together with lacing wires.



*Fill Gabions with stones*

**4**

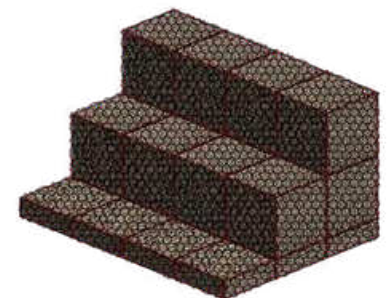
Gabion box is filled with stones by hand or with a shovel



*Cover lid with lacing wire*

**5**

When gabions are filled with stones, cover the lids with lacing wire



*Continue construction*

**6**

Combine gabion mattress and gabion boxes step by step to build your projects

## Application

Hexagonal mesh gabion box is widely use in the coastal embankment works and hydraulic structures, such as dams and culverts to do the following things:

- Soil erosion control to strength soil structure.
- Protect the roadway and bridge.
- Flood control.
- Retaining wall.
- Protect the engineering of seaside area.
- The control and guide of water.



*Protect the river bank*



*Soil erosion control*



*Protect the engineering of seawater area*



*Protect the roadway*



*Control and guide for water*



*Retaining wall*

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