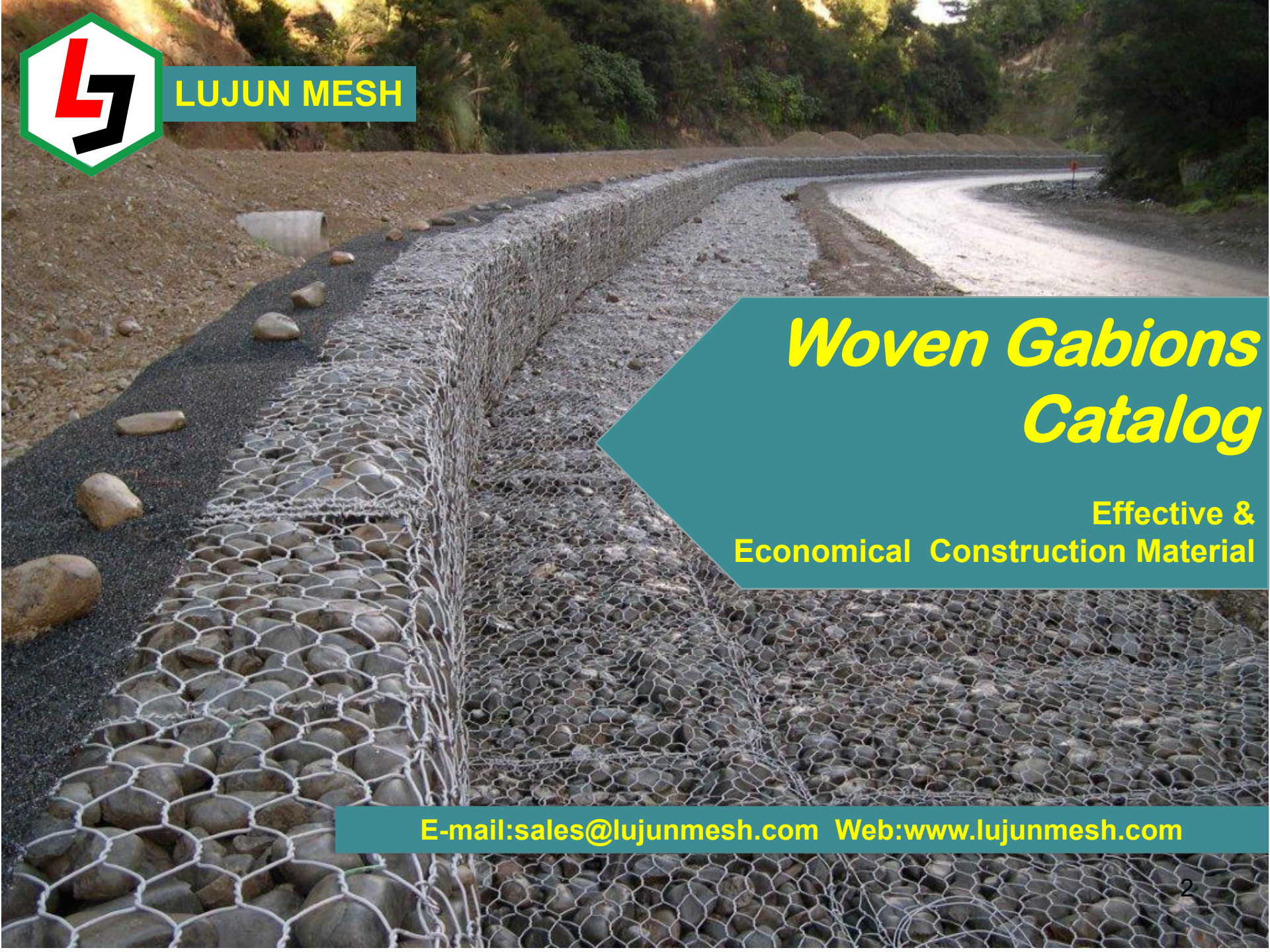

LUJUN MESH



LUJUN MESH

Woven Gabions Catalog

Effective &
Economical Construction Material

E-mail:sales@lujunmesh.com Web:www.lujunmesh.com

Company Profile



HEBEI LUJUN METAL PRODUCTS CO.,LTD is a professional wire mesh production enterprise integrating production, processing and sales. With the unique environmental advantages and the support and help of our colleagues, and the hard work of all employees, our company has quickly developed into a company with strong technical force, complete inspection methods and can produce a variety of wire mesh products.

Our company mainly produces: gabion nets, gabion nets, renault pads, SNS active and passive slope protection nets, building nets, climbing nets, fence nets, municipal protective nets, isolation nets, wire fences, grassland fences, etc. . Widely used in water conservancy and water conservancy, slope protection, urban construction, vegetation greening, petroleum, coal mine, chemical industry, electric power, construction, textile, medicine, aviation, aerospace, highway, railway, airport, garden, metallurgical machinery, etc With reliable quality and satisfactory after-sales, it is well received by new and old customers.

HEBEI LUJUN METAL PRODUCTS CO.,LTD has 15 fully automatic gabion mesh production lines, 10 net rolling machines, 30 mechanical flanging machines, 5 sets of new type slope netting equipment, 4 heavy balers, and rebar reduction There are 2 large-scale advanced production equipments including 2 machines, 13 large-scale punching equipment, more than 50 wire mesh welding and knitting equipment, etc., with an annual output of 20 million square meters of gabion nets, 1 million square meters of slope protection nets, and climbing frame punching nets 15 million square meters, 30 million square meters of protective net series. The annual consumption of raw materials is more than 200,000 tons. The products are sold domestically to major domestic rivers, reservoirs, hillsides and environmental protection engineering projects and transportation, construction, and security protection fields in various industries. The products are exported to Europe, the Americas, and Southeast Asia.



Gabion mesh box is a woven or welded wire container like cylinder and box that can be flled 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.

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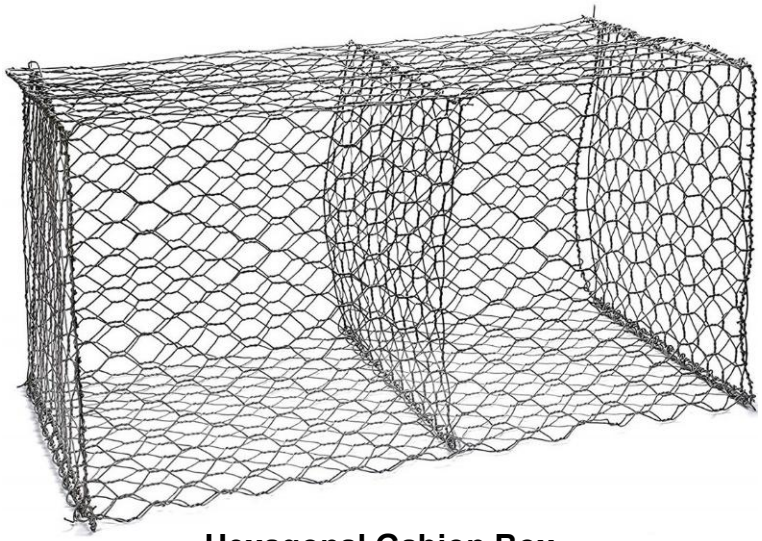
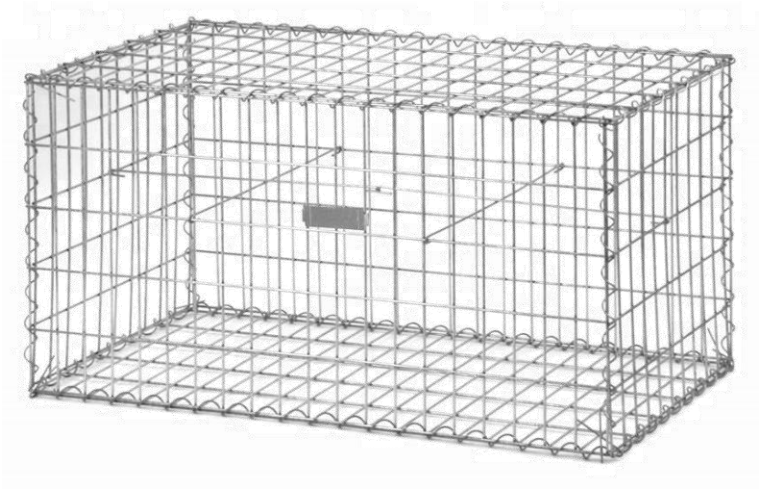


Hexagonal Gabion Box



Welded 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.

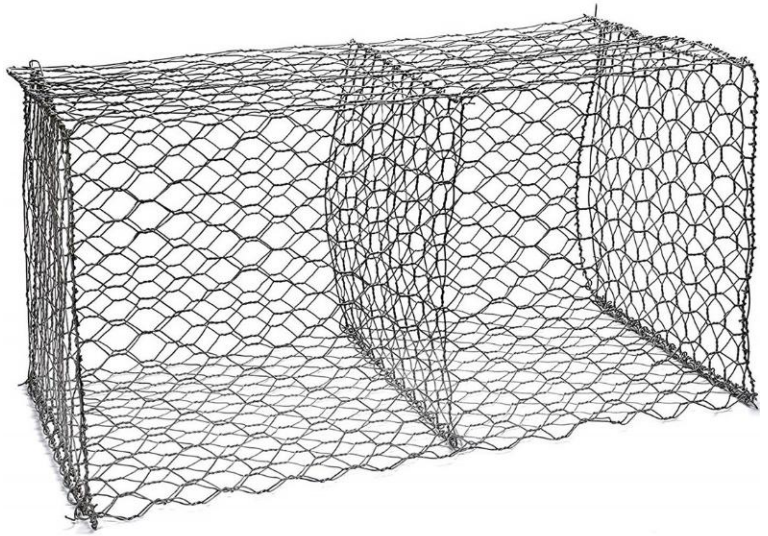
In addition, according to the different height, no matter welded gabions or hexagonal mesh gabions both can be divided into gabion box and gabion mattress.

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 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 Gabion Box

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. Additional, the twisted structure can supply higher tensile strength to be used in the heavy duty application.



LUJUN GABION FACTORY

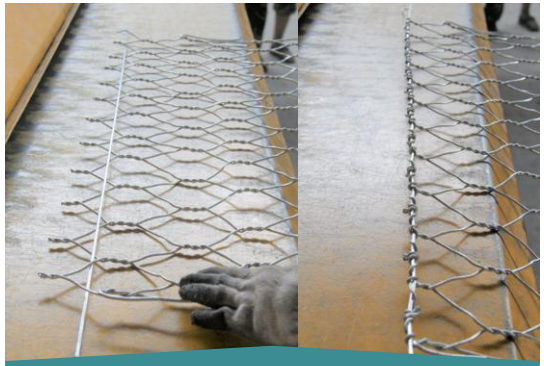
HEBEI LUJUN METAL PRODUCTS CO.,LTD has 15 fully automatic gabion mesh production lines, 10 net rolling machines, 30 mechanical flanging machines, 5 sets of new type slope netting equipment, 4 heavy balers, and rebar reduction There are 2 large-scale advanced production equipments including 2 machines, 13 large-scale punching equipment, more than 50 wire mesh welding and knitting equipment, etc., with an annual output of 20 million square meters of gabion nets, 1 million square meters of slope protection nets, and climbing frame punching nets 15 million square meters, 30 million square meters of protective net series. The annual consumption of raw materials is more than



Raw Material



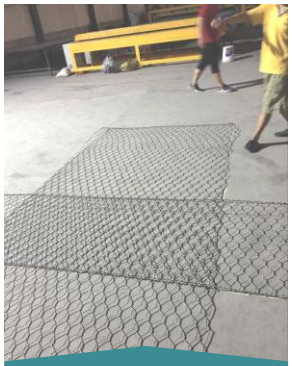
Weaving+Cutting Automatic



Bending by machine



Big Panel Bending



Assembling



Folding

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.

Specifcation

Regular Specifcation of Hexagonal Mesh Gabion Box		
Item	Materials	
	Galvanized （Zinc Only)	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	Length	Width	Height	Cell Nos.	Volume
	m	m	m		m^3
HMGB-01	2	1	1	2	2
HMGB-02	3	1	1	3	3
HMGB-03	4	1	1	4	4
HMGB-04	2	1	0.5	2	1
HMGB-05	3	1	0.5	3	1.5
HMGB-06	4	1	0.5	4	2
HMGB-07	2	1	0.3	2	0.6
HMGB-08	3	1	0.3	3	0.9
HMGB-09	4	1	0.3	4	1.2

Standard

ASTM Standard

◆ A975 - 11

Standard Specifcation for Double–Twisted Hexagonal Mesh Gabions and Revet Mattresses.

◆A641 / A641M - 09a

Standard Specifcation for Zinc–Coated (Galvanized) Carbon Steel Wire.

◆ A856 / A856M - 03

Standard Specifcation for Zinc-5% Aluminum-Mischmetal Alloy-Coated 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 EN 10244-2

Standard Specifcation for Zinc-5% Aluminum-Mischmetal Alloy-Coated Carbon Steel Wire.

◆ BS 1052:1980

Specifcation for mild steel wire for general engineering purposes.

Our Tolerance Standard: on the hexagonal double-twisted wire mesh, size of opening should not exceed ± 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/mm2 according to EN 10223-3.

●Tolerance.

Tolerance of wire shown at Tab.2 meet the requirements of EN-10218.

●Elongation.

Elongation shall not be less than 10% according to EN 10223-3. (The test must be carried out before a sample at least 25 cm long is made into mesh).

●Galfan coating.

The minimum quantities of Galfan shown at Tab.2 meet the requirements of EN 10244-2.

●Adhesion of Galfan:

The adhesion of the Galfan coating to the wire should be such that, when the wire is wrapped six turns round on a mandrel having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fngers.

Galfan Coated Gabion Box

- **Material.**

Mild steel heavily galvanized with Galfan (a Zn-Al 5%–MM (mischmetal) alloy.)

- **Structure.**

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

- **Standard combinations mesh/wire.**

Type: 80 mm × 100 mm.
Wire diameter: 2.7 mm, 3.7 mm (PVC coated).
D: 80 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

Galfan Coated Gabion Box with PVC Sleeve

- **Colour**

grey-RAL 7037, according to ASTM D2244-16.

- **Specific weight**

between 1.30 and 1.35 dN/dm3, according to ASTM D792-13.

- **Hardness**

between 50 and 60 Shore D, according to ASTM D2240-15e1.

- **Tensile strength**

not less than 210 dN/cm2, according to ASTM D412-16.

- **Elongation**

between 200% and 280%, according to ASTM D412-16.

- **Weight loss**

less than 5% after 24 hours at 105 ° C, according to ASTM D2287-12.

- **Residual ashes**

less than 2%, according to ASTM D2124-99.

- **Artificial ageing tests**

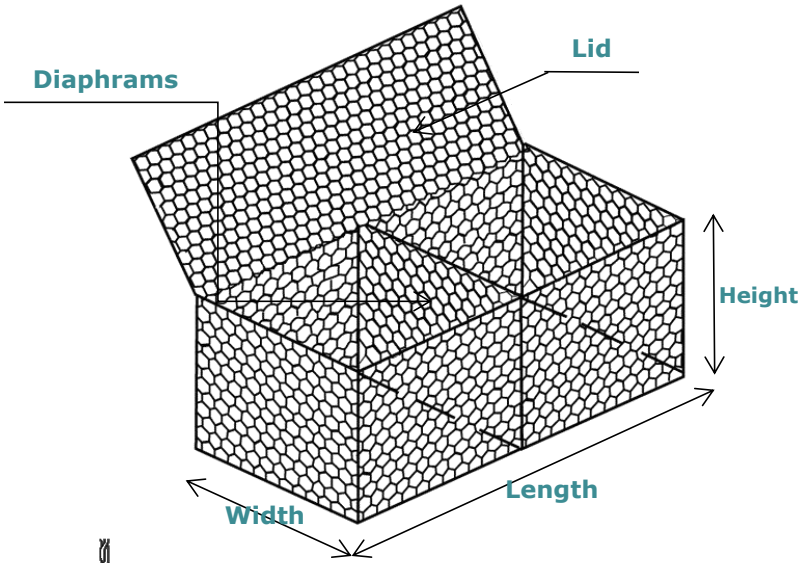
Salt spray test: test period 1500 hours, test method ASTM B117-16.
Exposure to UV rays: test period 2000 hours at 63 ° C, test method ASTM D1499-13 and ASTM G152-13 apparatus type E; exposure to high temperatures: test period 24 hours at 105 ° C, test method ASTM D1203-16 and ASTM D2287-12.

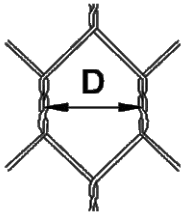
Fig.1

Length(mm)	Width(mm)	Height(mm)	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	

Fig.2

Mesh Wire Diameter mm	Tolerance of Wire Diameter	Quantity of Galfan Zn-Al 5% – MM gr/m2
2.0	0.06	215
2.2	0.06	230
2.4	0.06	230
2.7	0.06	245
3.0	0.07	255
3.4	0.07	265
3.9	0.07	275





MESH TOLERANCE
The tolerance on the opening of mesh "D " being the distance between the axes of twist, is according to EN 10223-3

Assembly and Erection

ASTM 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 specifcations:

Diameter: 300 mm.
Tensile strength: 170 kg/mm2.
Galfan coated rings for Galfan 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 flling 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

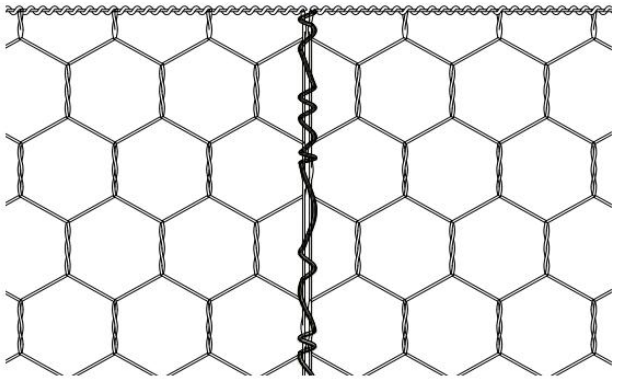


Fig.4

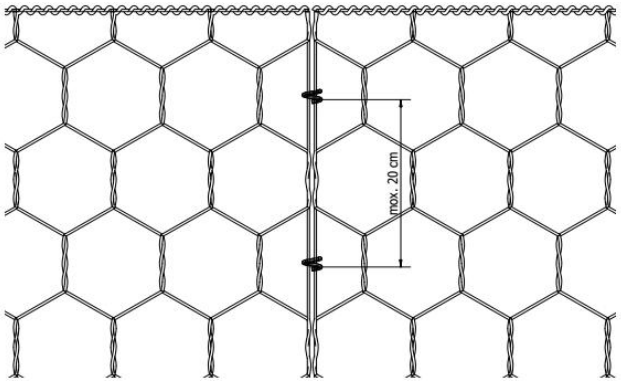
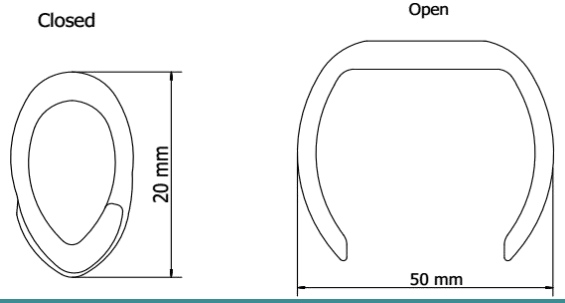


Fig.5



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



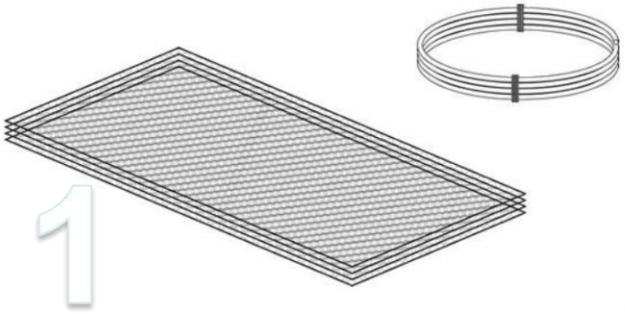
Loading

Workshop Show

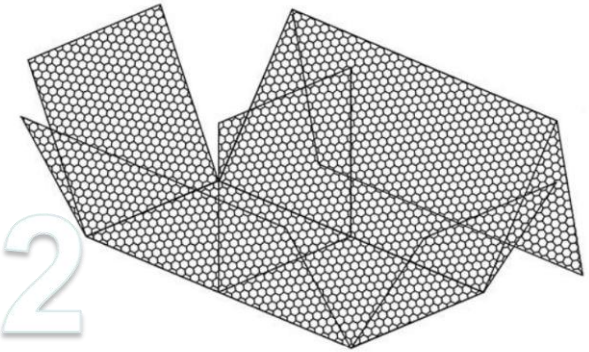




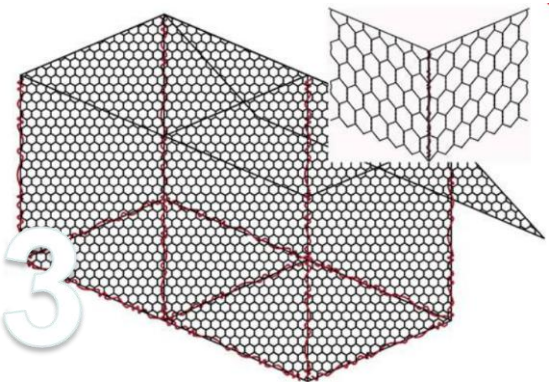
Installation process



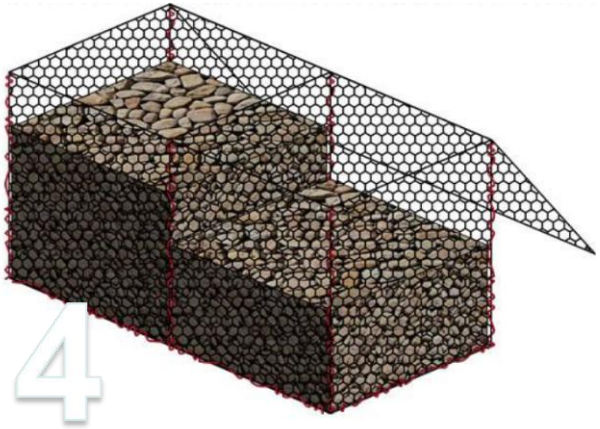
Prepare Materials
Prepare all needed gabion panels and lacing wires



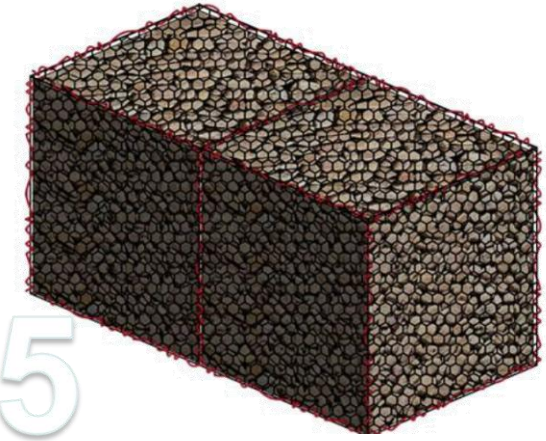
Erect Each Section Up
Erect front, back and all diaphragms vertically



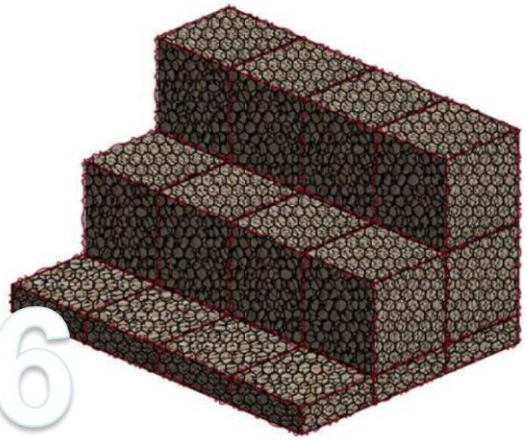
Fasten with lacing wire
Fasten and secure each panels together with lacing wires



Fill Gabions with stones
Gabion box is filled with stones by hand or with a shovel.



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



Continue construction
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.



River Bank Protection



Road Protection



Coastal Protection



Bridge Protection



Retaining Wall



Dam Protection



LUJUN MESH

Welded Gabions Catalog

Ideal Architectural Decoration Material

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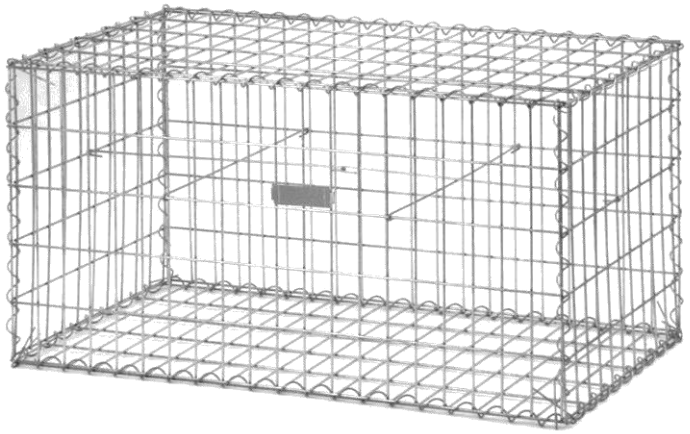
Welded Gabion Box

WELDED GABION BOX is made of steel wire with high tensile strength, then the wires are welded into a panel. Afterward we can use some mounting connections to assemble them quickly, such as hog ring connection, spiral joints connection, U clip connection and hook connection. The use of these accessories can reinforce the welded gabion box, making it is not easy to deform.

Because of this reason, compared with hexagonal mesh gabion box, welded gabion box is able to keep its shape and fit well with the target. In recent years, welded gabion box has become more and more popular in the decoration of garden and landscape, it can be used as a flowerpot, freplace, decorative wall and various landscape architecture

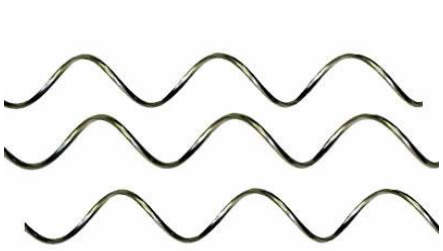


Welded Gabion Box



Welded Gabion Mattress

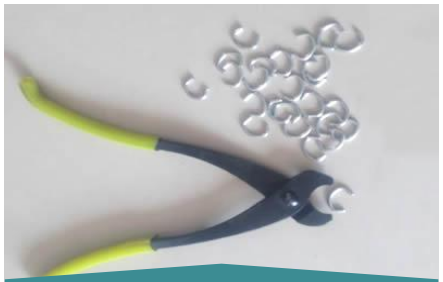
Connection types of welded gabion box


Spiral Wire


Spiral Wire Connection


U Clip


U Clip Connection


C Ring


C Ring Connection


Lacing Wire Connection


Hook Connection

Production Line


Raw Material


Wire Strengten


Panel Welding


Package & Loading

Specifications of Welded Gabion Box

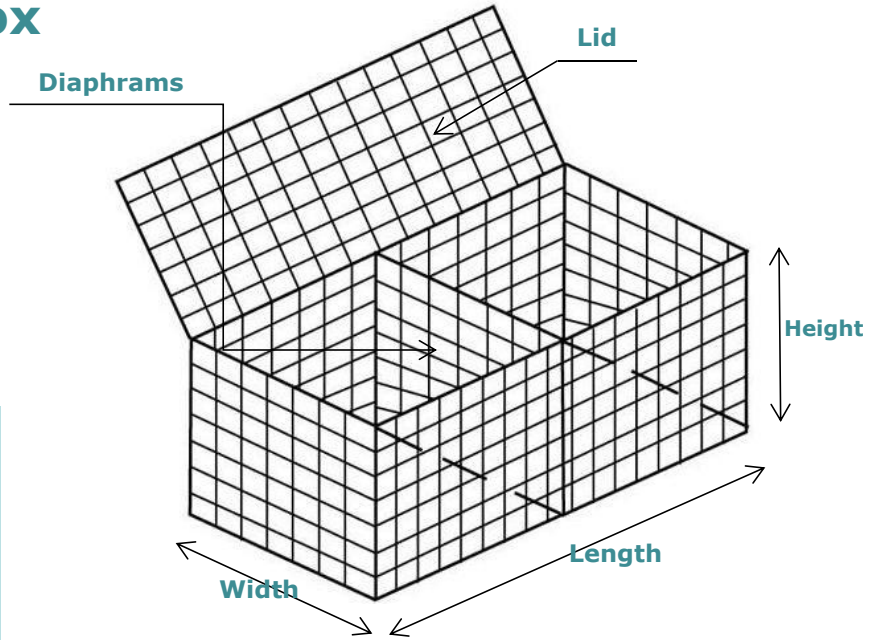
Material: Galvanized wire, Galfan coated wire or PVC coating wire.

Tensile strength: 380-550 N/mm2

Wire diameter: 3 4 5 6mm

Mesh size: 50x50, 75x75, 50x100, 100x100mm

Box size:2x1x1m, 2x1x0.5m, 1x1x1m,1x1x0.5m,1.5x1x1m

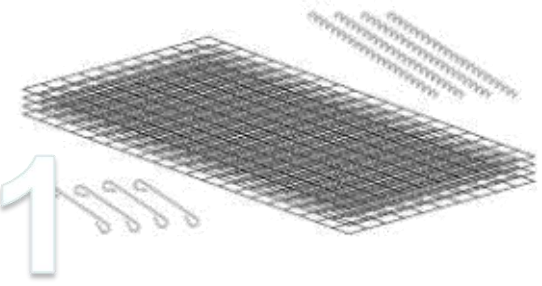


Specifications and volume of welded gabion box		
Nominal box sizes	No. of diaphragms	Capacity per box
(m)	(no.)	(m3)
1.0 × 1.0 × 0.5	Nil	0.5
1.0 × 1.0 × 1.0	Nil	1
1.5 × 1.0 × 0.5	Nil	0.75
1.5 × 1.0 × 1.0	Nil	1.5
2.0 × 1.0 × 0.5	1	1
2.0 × 1.0 × 1.0	1	2
3.0 × 1.0 × 0.5	2	1.5
3.0 × 1.0 × 1.0	2	3
4.0 × 1.0 × 0.5	3	2
4.0 × 1.0 × 1.0	3	4

Feature

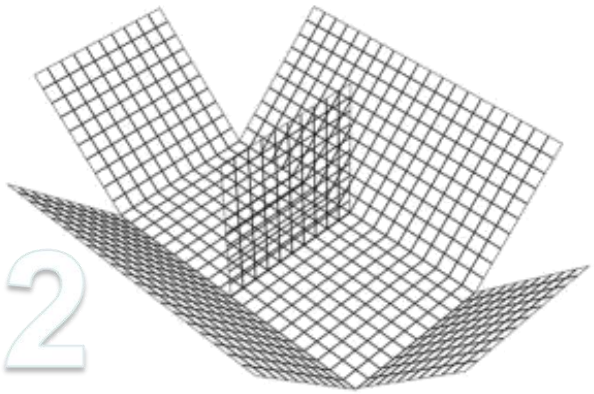
- Stable structure, and it is not easy to deform or crack.
- High security.
- Corrosion resistance and rust resistance, can be used in all weathers.
- Modular structure makes installation quick and simple.
- Low cost, recycle and friendly to environment.
- Can be made into various shapes for decoration

Installation process



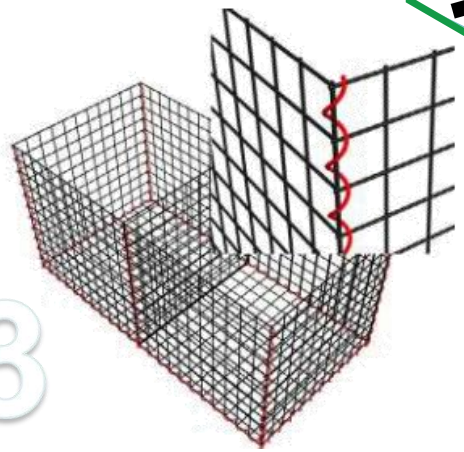
1

Prepare all needed gabion panels, spiral wires and stiffeners.



2

The ends, diaphragms,front and back panels are placed on the bottom section of gabion box vertically.



3

Secure panels by screwing spiral binders through the mesh openings in adjacent panels.



4

Stiffeners shall be placed across the corners, at 300 mm from the corner. Providing a diagonal bracing, and crimped over the line and cross wires on the front and side faces. None are needed in interior cells.



5

Gabion box is flled with stones by hand or with a shovel. After flling, close the lid and secure with spiral binders at the diaphragms, ends, front and back.



6

When stacking tiers of the welded gabion box, the lid of the lower tier may serve as the base of the up.

Application

Welded gabion box is widely used in the architecture and landscaping, such as:

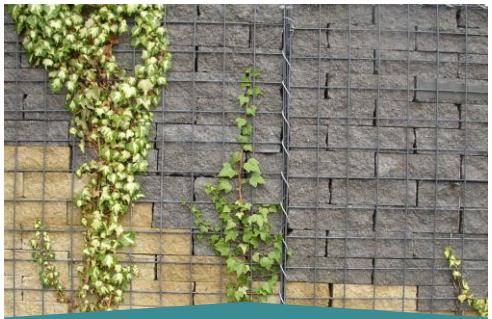
- Free standing walls.
- Cladding.
- Garden and landscape.
- Other features within the built environment.



Gabion architecture



Coastal Protection



Landscape Wall



Retaining wall



Erosion Control



Garden Fence



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