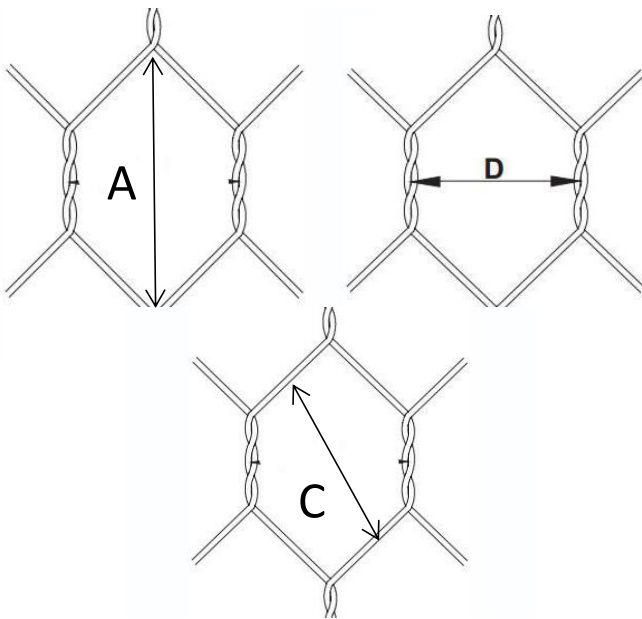


# NOVA Gabion

A gabion is a cage, cylinder, or box filled with rocks, concrete, or sometimes sand and soil for use in civil engineering, road building, military applications and landscaping. For erosion control, caged riprap is used. For dams or in foundation construction, cylindrical metal structures are used.

Gabion is woven of hexagonal shaped, double twisted steel wire - with zinc galvanization or PVC coating.

It is filled with stones at the project site to form flexible, permeable, and monolithic structure which acts to slow down water flow in drainage ditches or prohibit storm water runoff channels.



D (mm)	A (mm)	C (mm)
6	8	6
7	9	6.5
8	10	8
9	11	8.5
10	12	9.5
11	13	10
12	15	11
14	16	12
16	18	13
18	21	15
22	25	17.5



As per ASTM A975, gabion shall be manufactured with an 8 by 10 mesh type having a nominal mesh opening of 83 by 114 mm (3.25 by 4.5 in.).

Dimensions are measured at right angles to the center axis of the opening ( D = 83 mm) and parallel to the twist along the same axis. Tolerance: +/- 10 %.

Also there are other aperture sizes manufactured in our factory.

Characteristics	Gabion Box		Revet Mattresses	
	Metallic Coated	*PVC Coated	Metallic Coated	*PVC Coated
<b>Mesh Type</b>	8x10		6x8	
<b>Mesh Opening</b>	83 by 114 mm (3.25 by 4.5 in.)		64 by 83 mm (2.5 by 3.25 in.)	
<b>Mesh wire</b>	3.05 mm (0.120 in.)	*2.7 mm (0.106 in.)	2.2 mm (0.087 in.)	*2.2 mm (0.087 in.)
<b>Selvedge wire</b>	3.8 mm (0.150 in.)	*3.4 mm (0.134 in.)	2.7 mm (0.105 in.)	*2.7 mm (0.105 in.)
<b>Lacing wire</b>	2.2 mm (0.087 in.)	*2.2 mm (0.087 in.)	2.2 mm (0.087 in.)	*2.2 mm (0.087 in.)
<b>Fasteners</b>	3.0 mm (0.118 in.)	*3.0 mm (0.118 in.)	3.0 mm (0.118 in.)	*3.0 mm (0.118 in.)
<b>PVC coating thickness (Nominal)</b>	/	0.50 mm (0.02 in.)	/	0.50 mm (0.02 in.)
<b>PVC coating thickness (Minimum)</b>	/	0.38 mm (0.015 in.)	/	0.38 mm (0.015 in.)



1. Tensile Strength of wire

Regularly the material for gabion is low carbon steel wire (mild steel). Wire tensile strength is correspondingly 350-550KN/m<sup>2</sup>.

Gabion netting tensile strength is 50KN/M.

**TABLE 5 Tensile Strength for Temper Designation (SI Units)**

Wire Diameter, mm	MPa		
	Soft <sup>A</sup>	Medium <sup>A</sup>	Hard <sup>A</sup>
0.20 to under 2.00	515 max	485 to 690	620 to 825
2.00 to under 2.50	515 max	485 to 655	585 to 795
2.50 to under 4.70	485 max	450 to 620	550 to 760
4.70 and over	485 max	415 to 585	515 to 715



2. Surface treatment of wire

Surface Finishing is very important for Gabion. As it matters directly with corrosion resistance of Gabion, especially when environmental condition is severe (such as in saltwater).

- Type 1 - Zn Coating, class 3 (conforming to ASTM 641/ 641M)
- Type 2 - (Zn-5AL-MM) coating (Zn 5 % Aluminum & mischmetal alloy) which is called Galfan (Zn-10Al-MM wire is also popular).
- Type 3 - Mesh wire /lacing wire /stiffeners is Zn coated / or Galfan, plus PVC.coating.
- Type 4 - Aluminum coating conforming to ASTM A809.

\* Type 1/2/3 are the most regular types.

\* Corrosion resistance comparison: Zn-10AL-MM > Zn-5AL-MM > Zn coating

# NOVA Gabion Mesh

## Typical gabion sizes

Typical Gabion Sizes (SI Units)				
Length, m	Width, m	Height, m	Number of Cells, each	Volume, m3
2	1	1	2	2
3	1	1	3	3
4	1	1	4	4
2	1	0.5	2	1
3	1	0.5	3	1.5
4	1	0.5	4	2
2	1	0.3	2	0.6
3	1	0.3	3	0.9
4	1	0.3	4	1.2

Typical Gabion Sizes (Inch-Pound Units)				
Length, ft	Width, ft	Height, ft	Number of Cells, each	Volume, yd3
6	3	3	2	2
9	3	3	3	3
12	3	3	4	4
6	3	1.5	2	1
9	3	1.5	3	1.5
12	3	1.5	4	2
6	3	1	2	0.67
9	3	1	3	1
12	3	1	4	1.33

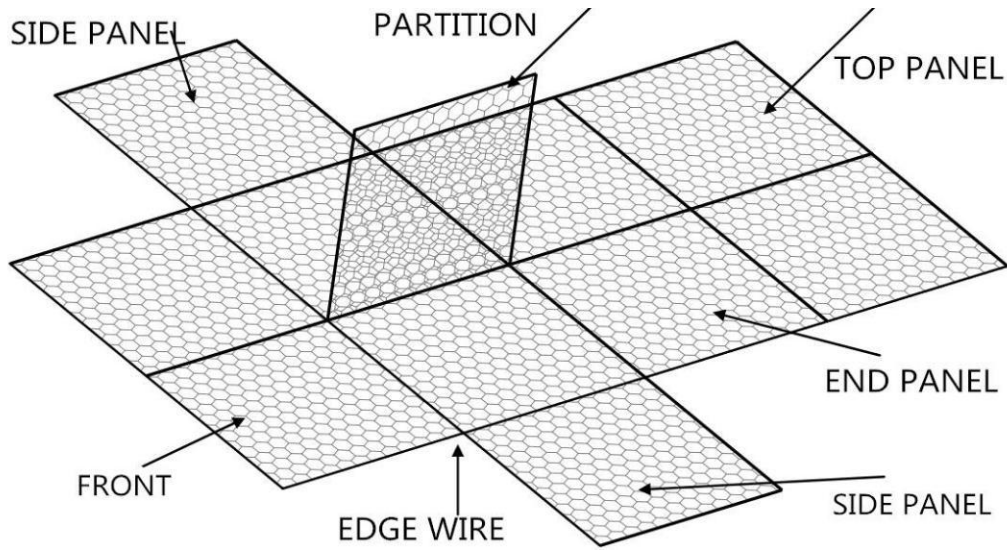
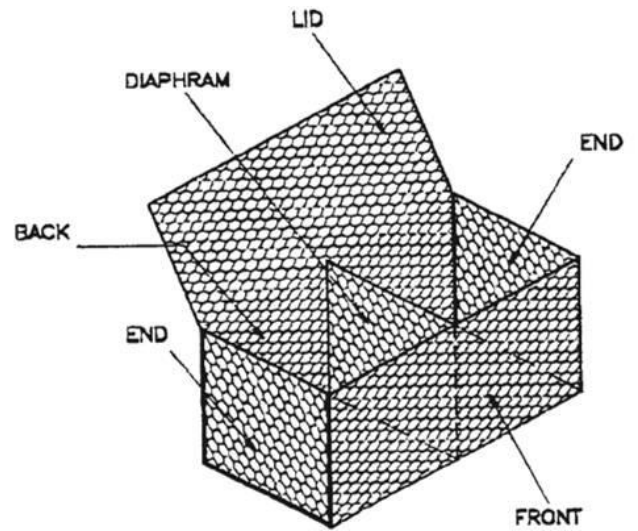
Tolerance (prior to filling) - For length & width & height: within +/-5 %

# Gabion Basket / Box

Gabion box is made of woven hexagonal shaped, double twisted steel wire mesh - with zinc galvanization or PVC coating.

It is filled with stones at the project site to form flexible, permeable, and monolithic structure which acts to slow down water flow in drainage ditches or prohibit storm water runoff channels.

Also it can be used along high way / railway to prevent rock falling down, or as retaining walls.

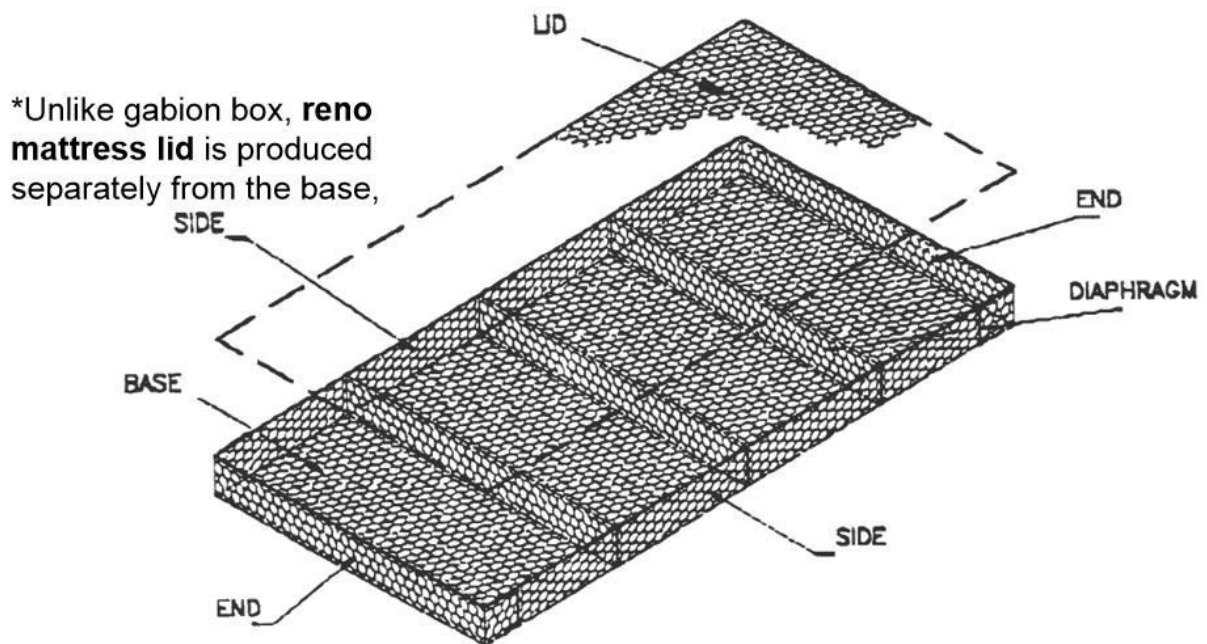
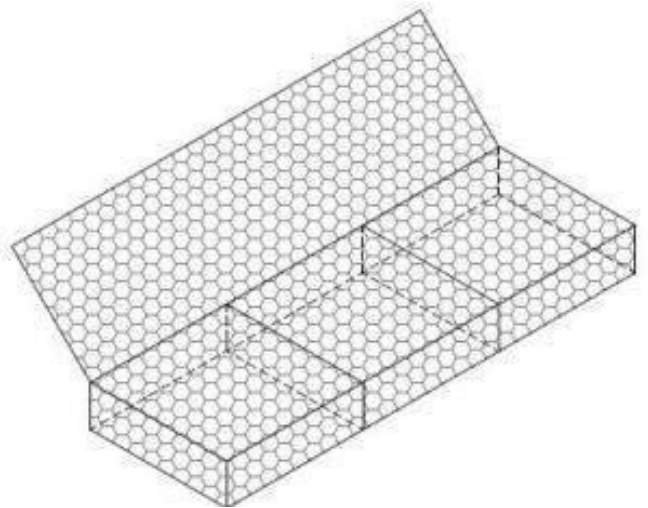


# Gabion Basket / Box

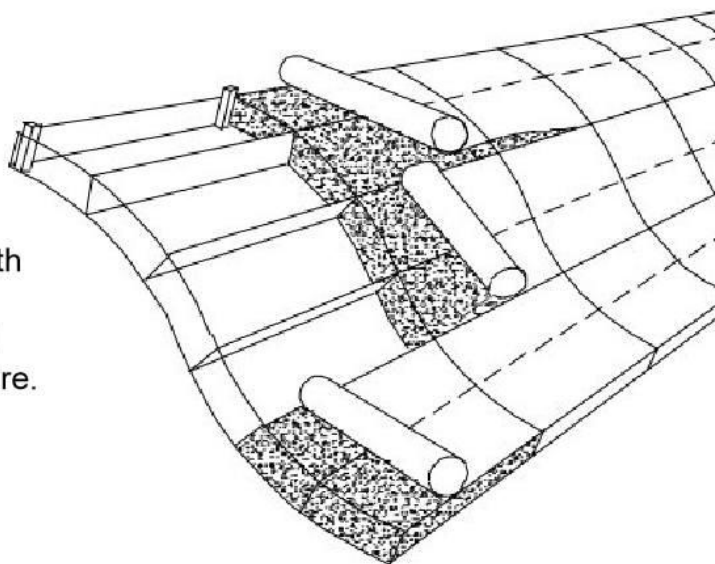
Reno Mattress is low profile gabion divided with internal partitions to form uniformly spaced cells.

The edges are reinforced with heavier gauge wire.

Reno mattress is commonly used for slope stabilization on steep hillsides, channel linings, and river bank erosion control.



When reno mattress is filled with stones, the lid of large piece is covered on the top, and is **tied with side meshes** by lacing wire.



# Reno Mattress

Typical dimensions of Reno mattresses -

Typical Revet Mattress Sizes (SI Units)				
Length, m	Width, m	Height, m	Number of Cells, each	Area, m <sup>2</sup>
3	2	0.17	3	6
4	2	0.17	4	8
3	2	0.23	3	6
4	2	0.23	4	8
3	2	0.3	3	6
4	2	0.3	4	8

Tolerance (prior to filling) - For length & width: within +/-5 %  
For height: within +/-10 %

## Application of Reno mattresses



# Sack Gabion

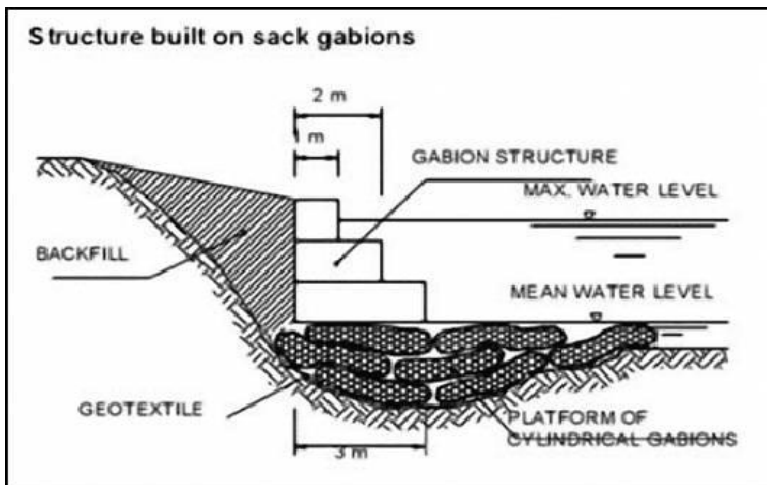
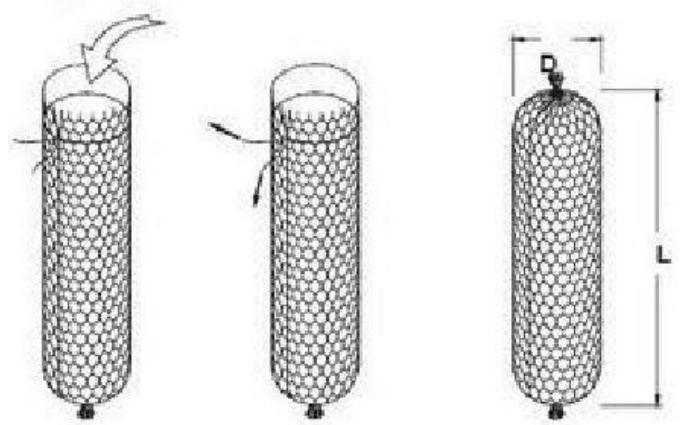
## Sack Gabion

It is used for the purpose of providing a firm platform in areas where poor founding conditions exist or founding occurs in the wet. It's cylindrical wire mesh baskets constructed of double twisted galvanized steel or with additionally a PVC coating. When filled with stones, sack Gabion can be used in river control and various emergency applications. Steel wires is inserted into sack gabion for reinforcement during the manufacturing to facilitate closing during installation. In order to reinforce the structure all mesh panel edges are selvaged with a wire having a greater diameter.

There are gaps between stones in sack gabion. It make the water seep through the structure, relieving the pressure, weaken the earth's shear strength. Meanwhile, It can save charge for traditional retaining drainage equipment, lower down the whole cost.

Typical Size of Sack Gabion

Length of cage (m)	Diameter of cage (m)	Volume (m <sup>3</sup> )	Weight of stone (ton)
1.8	0.6	0.54	0.8
2.7	0.6	0.8	1.2
1.8	0.9	1.2	1.8
2.7	0.9	1.8	2.7





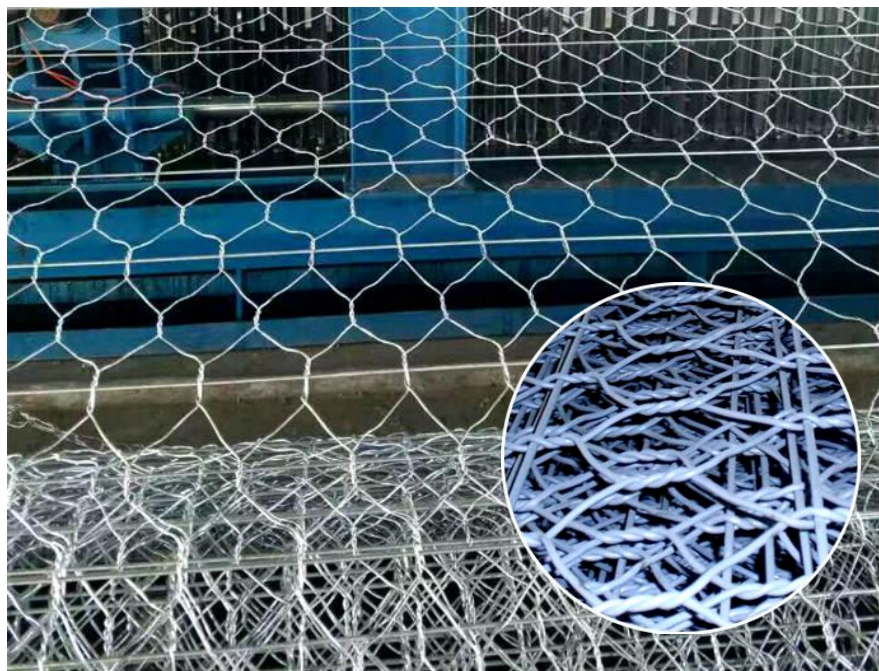
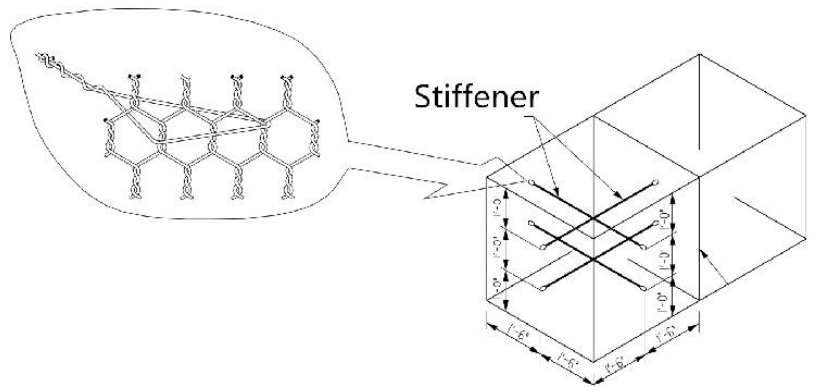
# NOVA Gabion - Reinforced Gabion

The reinforced gabion is mentioned that when we weave the wire mesh, in the direction of vertical or parallel, we add the same material wire as the hexagonal net.

The reinforced tensile strength of the tablets is greater than the normal hexagonal mesh. The diameter of the reinforced wire is generally not less than the edge wire.

Installed on the platform, especially when the tension is very high, it can absorb and fundamentally weaken the cracks.

The reinforced gabion is connected with a heavy hexagonal metal mesh after the box, the wire mesh penetrating into the ground as the reinforced grid of the box, making use of ground friction and mesh, it will produce better compatibility with the Environment .



# Factory View



Clients check goods before shipping.



Regular Bundle dim.

(LxWxH) - 2.1 x 1.1 x 1.1meter,  
1.7 ton/bundle

Gabion baskets are pressed in bundles to save shipping space / cost.



Regular Loading Quantity

17.5 tons for 20GP  
27 tons for 40GP

# NOVA Gabion - Projects

## Projects - The Yellow River Flooding Control project

- Yellow River is the 2nd longest river in Asia, the 6th-longest river (estimated length - 5,464 km).
- The photos are taken at the construction site in Gansu province, China
- Project finished by Dec 2016.

Gabion weir



The river at drought season is as peaceful as an mirror.

In the summer, melted ice water flow rushing down Bayan Har Mountains causes the flooding.

