

## General

Gabion Baskets (Boxes) are structures which shall be made of hexagonal Galvanized / PVC / Alu-Zinc coated double-twisted mild steel wire mesh. (See Fig.I)

Gabion Baskets shall be supplied in various lengths, widths and heights. For sizes & tolerances of dimensions (length x width x height), See Table I. For mesh opening tolerances See Table II .

In order to strengthen the baskets, all the edges of structure selvedged with wire of greater diameter. See Table III

Usually Gabion Baskets which have bigger length than 2m is divided into cells by panels (called diaphragm) positioned per 1 meter.

The wire mesh used in Gabion Baskets strictly conforms to EN10223-3 and Gabions also meet the requirements of ASTM A975-97.

## Mild Steel Wire

All wires used in Gabion Baskets and lacing wire have the tensile strength of 38-48kg/mm<sup>2</sup>(54,000-70,000psi) acc.to BS1052/80 and ASTM A641-97. (The figures above are of the wire prior to manufacturing mesh)

The tolerances on diameter of zinc coated wire in Table IV.

The elongation at break is min.12% and test to be carried out on a sample of minimum 30cm (12 in.) long, before manufacturing the mesh. (In acc.with ASTM A370-92)

Galvanisation strictly conforms to BS443/82, EN10244-2 and exceed those of ASTM A641-97 ClassIII Soft Temper Coating, DIN1548 and QQ-W-461 H.

And Zinc adherence has to be such that when the wire is wrapped around a cylindrical mandrel having 4 times the diameter of the wire, zinc shall not flake or crack to such an extent that any flake or crack can be removed by simply rubbing with bare fingers.

## Advantages of Gabions

- 1. Flexible:** Double-twisted hexagonal steel wire mesh structure tolerates against huge forces without breaking or cracking. It adapts itself to some degree of movement.
- 2. Durable:** Galvanized wire mesh has very long life. If the galvanised wire coated with PVC, the life of structure gets longer. Better for hydraulic works
- 3. Permeable:** The hexagonal wire mesh structure filled with stones provide an effective permeability throughout the structure, they are self-draining.
- 4. Economy:** Gabion Structures are very economical compared to the conventional structures especially when the stones to fill the structure are close to the work area. Low maintenance is required for the construction works (Life Time Economy)
- 5. Strength:** It can absorb the huge amount of energy and very strong under tension generated by the nature. Well-made gabion structures can exist in perfect condition for many decades.

Figure I

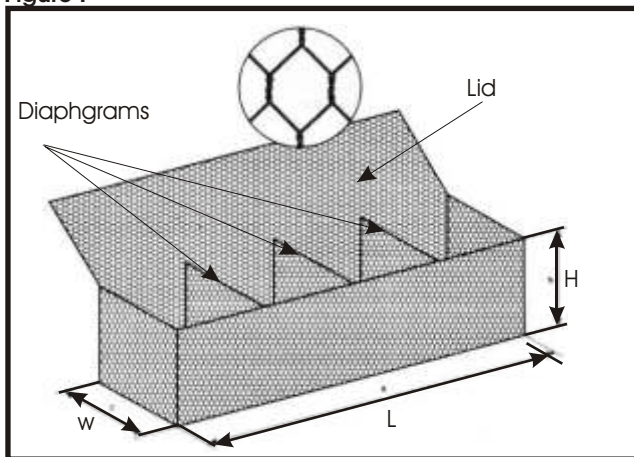


Table I

Mesh Openings : 5x7cm, 6x8cm, 8x10cm, 10x12cm				
Length (a) (m)	Width (c) (m)	Height (b) (m)	Capacity (m <sup>3</sup> )	Tolerances (%)
1	1	1	1	
1.5	1	1	1.5	
2	1	0.5	1	
2	1	1	2	Length ± 5%
3	1	0.5	1.5	Width ± 5%
3	1	1	3	Height ± 5%
4	1	0.5	2	
4	1	1	4	
4	1.5	1	6	
4	2	1	8	

Those are the standard range sizes of Gabion Baskets, there is also "Super Gabion" range for bigger dimensions and "Brick Gabion" range for smaller sizes.

Table II

Hexagonal Double Twisted Wire Mesh Opening	
Mesh Opening	Tolerances
5x7	- 4 %, +16 %
6x8	- 4 %, +16 %
8x10	- 4 %, +16 %
10x12	- 4 %, +16 %

Table III

Wire Combinations							
Mesh Wire	Ø mm	2.0	2.2	2.4	2.7	3.0	3.4
Selvedge Wire	Ø mm	2.4	2.7	3.0	3.4	3.9	3.9
Lacing Wire	Ø mm	2.0	2.0	2.0	2.2	2.4	2.4

Zinc Coating Rate (gr/m <sup>2</sup> )							
Wire Thickness	Ø mm	2.0	2.2	2.4	2.7	3.0	3.4
Zinc Coating	(gr/m <sup>2</sup> )	240	250	260	260	275	290

Table IV

Wire Diameters and Tolerances							
Ø mm	2.0	2.2	2.4	2.7	3.0	3.4	3.9
± mm	0.05	0.06	0.06	0.06	0.07	0.07	0.08

Label of Quality

