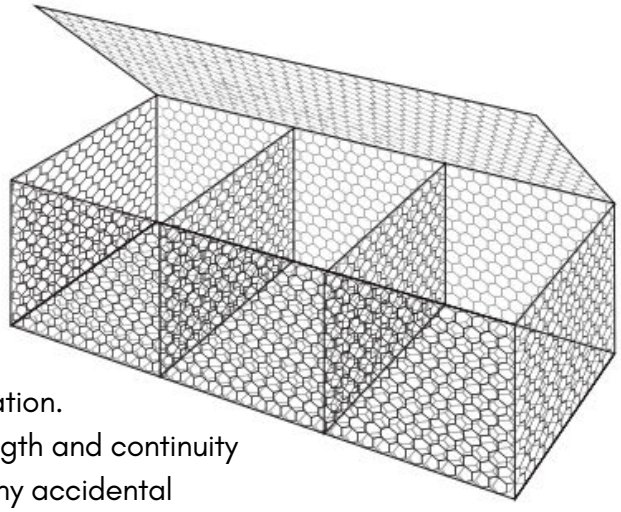
Twisted Wire gabion Baskets



Gabions are rectangular wire mesh baskets filled with rock at the project site to form flexible, permeable, monolithic structures such as retaining walls for commercial, industrial and road projects.

Gabion baskets are made from double twisted, hexagonal woven wire mesh. The wire used to manufacture the gabion baskets is fabricated from soft tensile, heavily galvanized steel, which is also available with an extruded PVC coating for additional corrosion protection, when required by the application. The double twist of the woven wire mesh provides integrity, strength and continuity to the structure by adding a non-ravelling effect that prevents any accidental damage from spreading. Lacing wire is used to assemble and interconnect empty units and to close and secure stone-filled units. Once assembled, the baskets are filled on-site with durable stone.

Gabion Baskets are also used for erosion control for bank stabilization, channel linings, and weirs. Their strength lies in their double twisted hexagonal mesh of steel wire which is reinforced by selvedges of heavier wire running along the edges and by transverse diaphragms. The wire will not unravel even when cut. Assembly is easy, requiring no specialized labour and they are easy to install.

They are ideal for any situation where a retaining structure is required which is also aesthetically pleasing and environmentally friendly. Since Gabion baskets are permeable, they integrate and adapt in harmony with their surroundings, allowing environmental growth and preservation.

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	Properties	ASTM	Value
Steel Wire	Type of Steel	ASTM D-641-92	Hardness: Soft Steel
	Tear Strength	ASTM A-370	< 12%
	Mass per Unit Area in Zinc (Zinc Coating Finish 5 -Class 3) • Wire mesh • Salvage wire • Lacing wire	ASTM A-90	 259.4 g/m^2 274.6 g/m^2 244.1 g/m^2

	Properties	ASTM	Initial Values	Loss after Wear [1]
PVC Coating	Tensile Strength (Mpa)	ASTM D-412	> 20.55	< 25%
	Modulus of Elasticity at 100% of Elongation (Mpa)	ASTM D-412	> 18.6	< 25%
	Elongation (%)	ASTM D-412	200 to 280	< 25%
	Density (g/cm^3)	ASTM D-792	1.30 to 1.34	< 6%
	Hardness	ASTM D-2240	50 - 60	< 10%
	High Temperature Exposure	ASTM D-1203 ASTM D-2287	No Effect After 240 Hours at 105°C	
	Abrasion Resistance	ASTM D-1242 Method B	Loss of Weight < 12%	

1. the accelerated wear tests are:
a) test vaporization of salt water according to ASTM B117 for 3000 hours
b) UV test according to ASTM D1499 and ASTM G152 for 3000 hours at 63C

	Mesh Size (10% tolerance)	Hexagonal Mesh has Double Twists of 83 x 114mm		
Size and Diameter		Measured in Accordance with ASTM A-641	Galvanized Gabions	PVC Coated Gabions [2]
	Diameter of Steel used for Wire Mesh		3.05 mm	2.70 mm
	Diameter of Steel used for Salvage Wire		3.88 mm	3.40 mm
	Diameter of Steel used for Lacing Wire		2.31 mm	2.31 mm

2. Note that the nominal thickness of the PVC coating is 0.55 mm (minimum 0.38mm) for each type of steel strand.

Advantages of Gabion Baskets

- Uniform wire coating for extra durability
- Flexible & permeable structure
- Tolerates differential settlement
- Easy to install
- No special labour is required for installation

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