



Over the years gabions have evolved from simple functional applications such as retaining walls into architecturally interesting feature walls combining rock and other elements.

Permathene specialises in welded gabion mesh in the form of panels, rolls (PVC coated) and complete kitsets (boxed with all accessories including spirals and stiffeners).

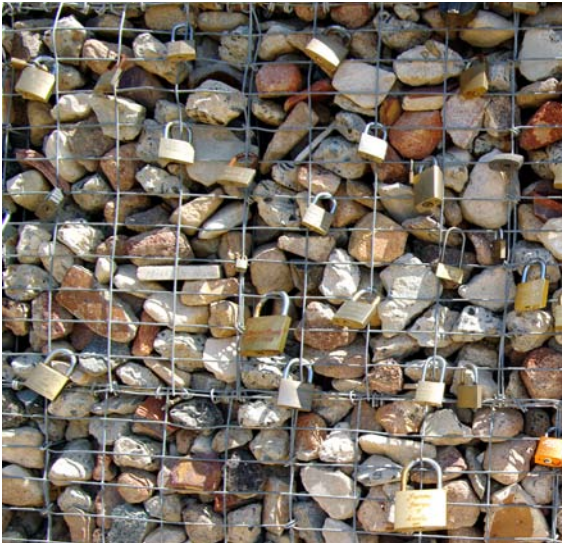
Spirals are designed for maximum strength and make the job quick and easy. Spirals are 1m and .5m long helical shaped wire which is simply threaded through the panel apertures. This method is great for home builders, landscapers and DIY projects.

C rings are another method of panel or cage connection, they can give a cleaner look but require a C ringer tool and must be placed every 150mm to meet ASTM 974 for welded mesh gabions. Permathene carries good stocks of C rings in Galfan and Stainless Steel, plus offers the tools also.

Vital components of welded mesh gabion are the stiffener wires which are pre-formed wires placed at every corner of the basket or perpendicular to the front panel depending on the width of the cage. Typically a 2m x 1m x 1m cage will require 16 of 450mm stiffeners (2 per corner) and a 2m x 0.5m x 0.5m cage will require 4 of 530mm stiffeners (perpendicular to the front panel at half height).

Coating is IMPORTANT....

When choosing the mesh type, one of the most important decisions relates to the coating system. If you decide to use plain galvanised mesh, insist on a heavy coating of at least 275gsm. Most fencing type mesh is a lot less than this, typically around 60gsm. Coating type and weight is a primary consideration for a permanent gabion structure. For a small additional cost, Galfan is a far more effective coating. Generally, a mix of five per cent aluminium and 95 per cent zinc is all that is needed to greatly extend the life of the mesh. Permathene also supplies 10 per cent aluminium coating for structures that will be erected in severe environments, such as coastal walkways or close to sea spray.



Some spectacular results have been created by placing various types of rock inside welded wire cages including broken brick, basalt, river rock and sand stone. The visual effects change during hot sunny days or rainfall.

Rock steady...

The type of rock selected will depend upon the purpose of the wall. If used for retaining the rock needs to be dense enough to support anticipated loads. Typically rock such as basalt is used for this due to its hardness. Lighter and less dense rock can be used for low decorative walls. It is important to obtain an engineer's design to determine loads and stresses and other factors, especially

for retaining walls or good consolidated ground with adequate drainage. Care must also be taken to ensure the wall is solid, especially if designing and building a wall beyond 1m high and less than 1m wide.

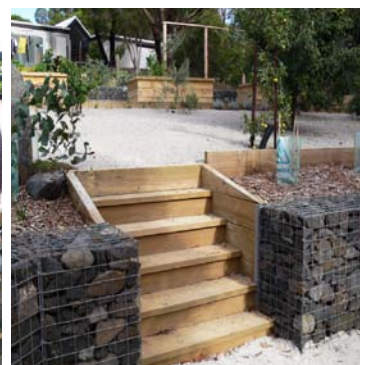
Ultimate design...

A well constructed gabion wall can provide an intimate and reflective area offering sound proofing, privacy and beauty. There are many design options available to the landscape architect, the type of wall can be low with rock hugging plants trailed over the top of the gabion wall or the wall can be built with curves or sharp angles. The type of rocks used and placement can be artistically arranged for various effects and moods. Some light coloured rock can have an almost desert like appearance and a darker rock such as basalt (bluestone) will have a more moody appearance, especially during wet weather.



The uses for welded mesh gabions are almost endless from artistic and architectural to purely functional. Typical projects include:

- House walls ● Garden seating ● Mail box ● Water Feature ● Fireplaces ● Pizza oven ● Planters and a lot more....



Easy assembly...

Permathene welded gabions are not only looking fantastic in commercial jobs, but also provide solutions and creative ideas for backyard and home projects, and they are easy to build.

The tools needed for assembling gabion kitsets:

- Heavy duty gloves
- Pliers for locking spirals and stiffeners.

And you are ready to GO...



Normainal Box Size (L x W x H)	No. of diaphragms (Number)	Rocks required approx. (Tonnes)	Aperture (Opening Size)	Standard of Wire Diameter
2m x 1m x 1m	1	4	75mm x 75mm 100mm x 50mm (Also avilable in 50mm x 50mm 50mm x 25mm)	Galvanised or Galfan wire 4mm (Also avilabe in 3.2mm & 5mm) PVC wire 2.7/3.7mm, 3/4mm (before/after PVC coating)
2m x 0.5m x 1m	1	2		
2m x 1m x 0.5m	1	2		
2m x 0.5m x 0.5m	1	1		
1m x 1m x 1m	0	2		
1m x 1m x 0.5m	0	1		
1m x 0.5m x 1m	0	1		
0.5m x 0.5m x 1m	0	0.5		
1m x 0.5m x 0.5m	0	0.5		
0.5m x 0.5m x 0.5m	0	0.25		

- Galvanised
- Galfan (5% Al, 95% Zn)
- Galfan (10% Al, 90% Zn)
- PVC (fusion bonded) coated
- Stainless Steel



Estimated Life Span..

Generally you can expect 20 years life for galvanised wire, and 2-3 times longer life span for Galfan, and more than 100 years for PVC coated and stainless steel.

Thicker wire ≠ Longer Life

Permathene offers 3.2mm, 4mm, 5mm and thicker wire depending on the client's specification. However, the most popular grade by far is 4mm Galfan due to the balance of rigidity and appearance. The wire is not very obvious at a distance, especially as it turns grey over time. A 3.2mm Galfan wire mesh with a 275gsm coating will still have a 40-50 year life span under moderate conditions and will far outlast a 5mm galvanised wire mesh made from standard zinc coated mesh.

A brief mention of PVC coated mesh...

Although most architectural projects use Galfan welded mesh which turns grey after weathering, some projects may specify a higher corrosion resistance. For those applications (such as coastal walkways, etc) we offer PVC coated gabions in roll form. Contractors are able to roll out and build walls in a modular fashion quickly and efficiently. Typical colours of PVC coated gabion mesh are grey and black.

PVC coated gabions are also used in the fishing industry for lobster and crab traps. They come in a variety of wire gauges and mesh sizes and they are utilised in fresh and/or salt water environments.



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