

WELDED GABIONS
GALMAC® C3 COATED

Prefilled electrowelded welded gabions have been specially developed for use in hard-to-reach environments, where personnel safety is difficult to guarantee, or for emergency work (Figure 1). The gabions are delivered to the site ready for use and equipped with lifting straps. The main dimensions of the gabions are summarised in Table 1.

The gabion structure consists of electrowelded panels forming a compartmentalised box every meter in length via diaphragms. The electrowelded panels are manufactured in accordance with standard BS EN 10223-8. They are composed of T1 class steel wire conforming to standard BS EN 10218-2, with a diameter of 4 mm, assembled at the factory by electrowelding to form 75 x 75 mm rectangular meshes (Table 2).

Other gabion dimensions and mesh-wire combinations are possible and will be studied upon request.

Wire

The steel wire used in the manufacture of the gabion is heavily galvanized with Galmac® C3 advanced metallic coating. The standard specifications of wire tolerances and coating are shown in Table 1.

- Tensile strength:** the wire used for the manufacture of gabions shall have a minimum tensile strength of 700 MPa, in accordance with EN 10223-8.
- Galmac® C3 coating:** the minimum quantity of the advanced metallic coating Galmac® C3 coating shown at Table 1 and meets the requirements of EN 10244-2 (Table 2, Class A).
- Adhesion of Galmac® C3:** the adhesion of the Galmac® C3 coating to the wire shall be such that, when the wire is wrapped six turns around a mandrel having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fingers, according to EN 10244-1.
- Outwearing accelerated ageing test in salt spray:** when the welded wire mesh is subjected to the neutral salt spray test (ISO 9227) after 3,000 hours of exposure the mesh shall not show more than 5% of DBR (Dark Brown Rust).
- Outwearing accelerated ageing test in sulphur dioxide environment:** when the welded wire mesh is subjected to test in a sulphur dioxide environment (ISO 6988) after 56 cycles of discontinuous test the mesh shall not show more than 5% of DBR (Dark Brown Rust)

Durability (ISO 9223 BS EN 10223-3, Annex 1):
Ambient C3: > 50 years

Mesh

Dimensions and tolerances of meshes are shown on Tab. 1. The average shear strength of 4 welds selected at random from one panel shall be ≥ 75% of the breaking load of the wire, with no single weld below 50%, according BS EN 10223-8. Variations in the panel dimensions shall be a maximum of ± 3,0 mm per metre measured centre to centre of edge wires (EN 10223-8).

Installation

For the installation of prefilled units please refer to the specific implementation guide.

The cages can be joined together using 3mm diameter steel staples coated with Galmac™ C3, which have a high yield strength (1700 MPa tensile strength), ensuring a perfect cage closure (Figure 2). Using a pneumatic stapler (Figure 3) allows for the staple opening resistance of 2.0 kN specified in standard BS EN 10223-8:2014.

Lacing Wires & C Rings

Welded gabions shall be assembled and fixed using either lacing wire or C-rings or a combination of c rings and lacing wire to securely connect adjacent panels and diaphragms. Fasteners shall be installed at regular intervals along all edges to ensure a tight, stable, and properly aligned structure.

Quantity Request

When requesting a quote, please specify:

- Size of units (Length x Width x Height), multiple of mesh sizes, according to EN 10223-8.
- Mesh-Wire combination (mm),
- Diaphragms and lacing system (rings or spirals)
- Coating type (Galmac C3)

EXAMPLE: No. 100 Welded Mesh Gabions 2x1x1m, Mesh Aperture 100x100 mm, Wire 4.5 mm, Galmac C3 coated.



Figure 1: Example of Galmac C3 welded gabion application

Table 1: Standard Mesh-Wire Sizes

Mesh Opening (mm) BASE x HEIGHT	50x50, 75x75*, 100x100, 50x100, 100x50		
Mesh Tolerance (± mm)	3		
Wire Diameter (mm)	3.0	4.0	5.0
Wire Tolerance (± mm)	0.07	0.07	0.08
Minimum Coating g/m²	255	275	280
Metallic Coating	Galmac C3		
(*) Standard product in UK & Ireland			

Table 2: Standard Unit sizes

Length (m)	Width (m)	Height (m)
1.95	0.975	0.975
1.95	0.975	0.450
1.5	0.975	0.975
0.975	0.975	0.975

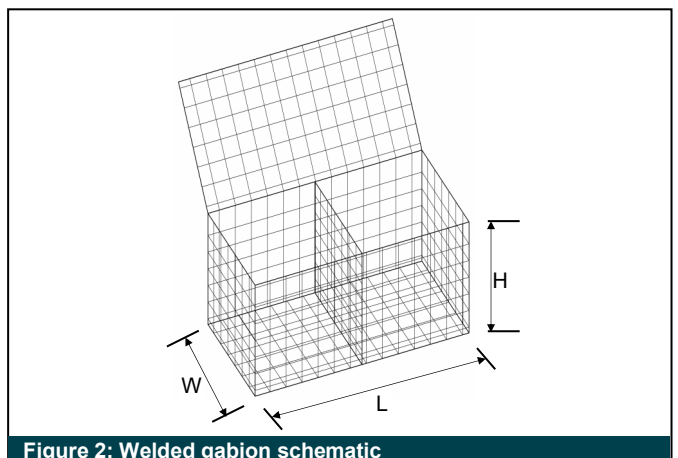


Figure 2: Welded gabion schematic

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