

GREEN TERRAMESH® GALFAN & POLYMER COATED

The Green Terramesh® is an environmentally friendly modular system used for soil reinforcement such as mechanically stabilized embankments (Fig. 3). Green Terramesh® are assembled units made of double twisted wire mesh, a geosynthetic or biodegradable erosion control blanket, a welded mesh panel, and 3 pre-formed steel brackets (Fig. 1). The Green Terramesh® main unit is fabricated from soft tensile, heavily galvanized with Galfan (Zn-Al5%-MM mischmetal alloy), and polymer coated (PVC) steel wire. The facing section of the unit is reinforced with additional PVC coated steel rods inserted through the twists during the manufacturing process. Attached to the inside facing is a geosynthetic three-dimensional geomat (Green Terramesh® "Water" type) or biodegradable 100% coconut fiber biomat (Green Terramesh® "Soil" type). Three steel brackets, having a diameter of 8 mm, are used to pre-form to shape to the required slope angle.

Dimensions, tolerances, and sizes are shown in Table 1.

Wire

All tests on wire must be performed prior to manufacturing the mesh.

- Tensile strength:** the wire used for the manufacture of gabions shall have a tensile strength between 350-550 N/mm² exceeding, in order to increase the tensile resistance of the finished products, what is suggested from EN 10223-3. Wire tolerances (Table 4) are in accordance with EN 10218 (Class T1).
- Elongation:** Elongation shall not be less than 9%, exceeding, in order to increase the tensile resistance of the finished products, what is suggested from EN 10223-3. Test must be carried out on a sample at least 25 cm long.
- Galfan coating:** minimum quantities of Galfan shown at Table 4 meet the requirements of EN 10244-2 (Table 2 and Class A).
- Adhesion of Galfan:** the adhesion of the Galfan coating to the wire shall be such that, when the wire is wrapped six

P.V.C. (Polyvinyl Chloride) Coating

The technical characteristics and the resistance of the PVC to ageing meet the relevant standards. The main values for the PVC material, according to EN 10245-2, are as follows:

Colour: grey-RAL 7037, according to ASTM D1482-57T;

Specific gravity: 1.30-1.35 kg/dm³ in accordance with ASTM D792 Table 1;

Hardness: between 50 and 60 Shore D, according to ASTM D 2240;

Tensile strength: not less than 20.6 MPa, according to ASTM D412-92;

Elongation at break: not less than 200%, in accordance with ASTM D412-92;

Weight loss: less than 5%, after 24 hrs at 105°C, test method ASTM D2287-92;

Residual ashes: less than 2%, according to ASTM D2124-62T;

Abrasion resistance: loss in volume shall be less than 0.30 cm³, according to ASTM D1242-92, test method A.

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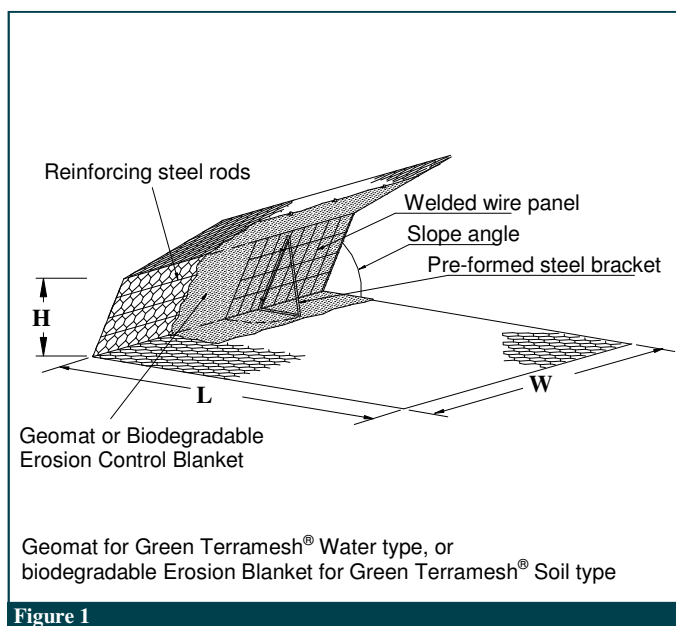


Figure 1

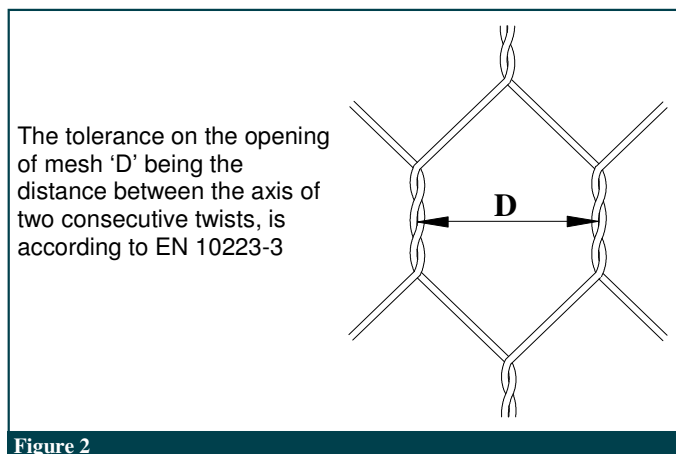


Figure 2

Salt spray test: test period 1,500 hrs, test method ASTM B117-94;

Exposure to UV rays: test period 2,000 hours at 63°C, test method ASTM D1499-92a and ASTM G23-93 apparatus Type E;

Exposure to high temperatures: 24 hrs at 105°C, according to ASTM D1203 and ASTM D2287;

Brittleness temperature: Cold-bend less than -30°C test method BS 2782-104A; Cold-flex less than +15°C, test method BS 2782-151A.

The properties after ageing tests shall be as follows:

Appearance of coating: no cracking, stripping or air bubbles, and no appreciable variation in color;

Specific Gravity: variations shall not exceed 6%;

Hardness: variations shall not exceed 10%;

Tensile strength and elongation: var. shall not exceed 25%;

Abrasion resistance: variations shall not exceed 10%;

Brittleness temperature: Cold-bend shall not exceed -20°C. Cold-flex shall not exceed +18°C.

1-A. Table of sizes for Green Terramesh® (Soil type)

L=Length (m)		W=Width (m)	H=Height / (slope angle °) (m)
Green Terramesh	Green Terramesh Light		
2.0	2.0	2 or 3 m	0,56 a 0,70 m / 60°
-	2.5		
3.0	3.0		
-	3.5		
4.0	4.0		
5.0	-		
6.0	-		0,61 a 0,76 m / 65°

1-B. Table of sizes for Green Terramesh® (Water type)

L=Length (m)		W=Width (m)	H=Height (45°) (slope angle °) (m)
Green Terramesh	Green Terramesh Light		
2.0	2.0	3	0,57 m / 45°
-	2.5		
3.0	3.0		
-	3.5		
4.0	4.0		
5.0	-		
6.0	-		0,70 m / 60°

All sizes and dimensions are nominal. Tolerances of ± 5% of the width, height, and length of the Green Terramesh shall be permitted.

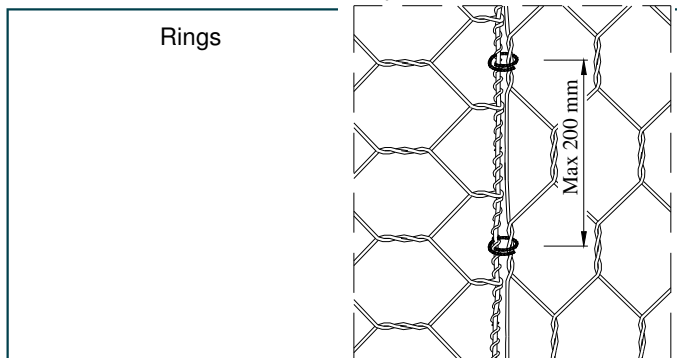


Figure 3

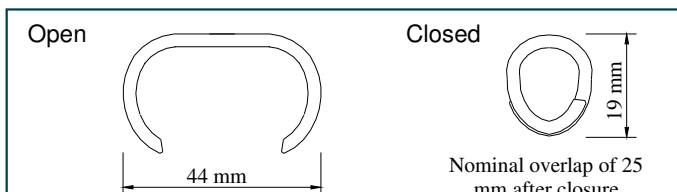


Figure 4

2. Standard Mesh-Wire

Type	D (mm)	Tolerance	Int. Wire Dia (mm)	Ext. Wire Dia (mm)
8x10 Green Terramesh Light	80	+16% / -4%	2.20	3.20
8x10 Green Terramesh Standard	80	+16% / -4%	2.70	3.70

3. Standard wire diameters

	Mesh Wire	Selvedge Wire
8x10 Green Terramesh Light	ø mm	Int.2.2/Ext.3.2
8x10 Green Terramesh Standard	ø mm	Int.2.7/Ext.3.7

4. Table of wire tolerances and coating

	mm	2.20	2.70	3.40
Internal Wire diameter	mm	2.20	2.70	3.40
Wire tolerance (±) ø mm	(±) ø mm	0.06	0.06	0.07
Min.Q.ty of Galfan	gr/m ²	230	245	265

Lacing Operations

Lacing operations can be made by using the tools shown in Fig.5. Galfan coated steel rings having the following specification can be used instead of lacing wire (Figs. 3, 4):

- diameter: 3.00 mm
- tensile strength: 170 kg/mm²

Spacing of the rings must not exceed 200 mm (Fig.3)

Quantity Request

When requesting a quote, please specify:

- size and type of units (length, width, height, slope), see Fig.1,
- type of mesh and wire coating,

Example: No.100 Green Terramesh® Standard 4x3x0.73m—65 deg-Mesh type 8x10-Wire 2.7/3.7 mm-Galfan + PVC coated

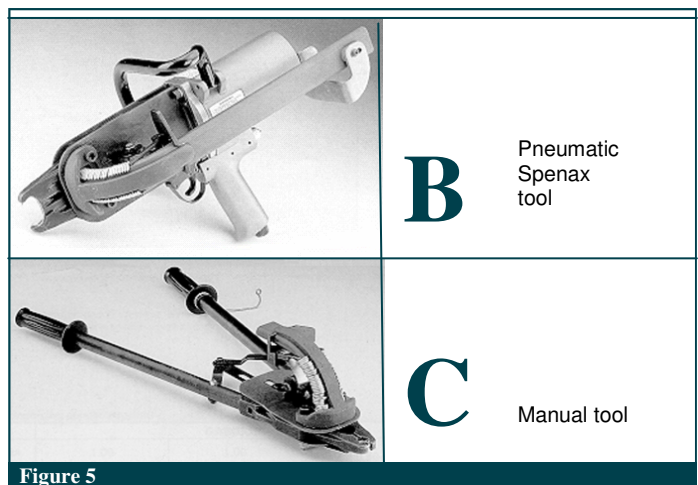


Figure 5

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