FLEXMAC® DT
Solutions for flood and emergency works

FLEXMAC® DT is a multicellular structure made of hexagonal double twisted wire mesh 8x10 type Galmac (Zn/Al alloy) coated. The main applications of FLEXMAC® DT are flood emergency works and bank restoration.
The mesh is reinforced with vertical steel rods and internally lined with a geotextile sleeve. (fig. 1).
Table1, shows the characteristics of the double twisted steel wire mesh in compliance to EN 10223-3:2013.
The reinforcing steel rods inserted into the double twist (Fig. 2) during the manufacturing process have a spacing of one mesh length (approx. 162 mm).
The rods have a diameter of 4.9 mm and made of the same steel of the mesh; each rod is folded at both ends, securing it within the mesh.
FLEXMAC® DT units are joined longitudinally using connecting pins to obtain the required length of the structure. Connecting pins shall be placed prior to fill the units.
When two or more FLEXMAC® DT units are stacked on one another, plastic tiewraps are used along the perimeter of the walls to connect the units to each other.

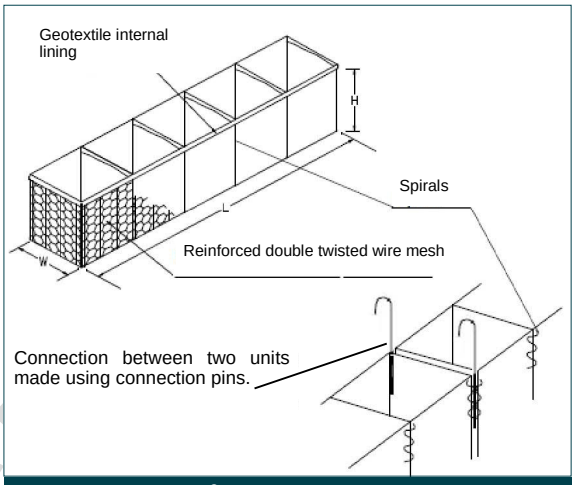

Figure 1: FLEXMAC® DT

Wire
All tests on wire must be performed prior to manufacturing the mesh.
1. **Tensile strength:** the wire used for the manufacture of FLEXMAC® DT shall have a tensile strength 350-550 N/mm^2 as per EN 10223-3:2013. Wire tolerances are in accordance with EN 10218-2 (Class T1).
2. **Elongation:** Elongation shall not be less than 8%, in accordance with EN 10223-3:2013.
3. **Galvanization:** minimum quantities of Galmac shown in Table 2 meet the requirements of EN10244-2 (Class A).
4. **Adhesion of coating:** the adhesion of the Galmac coating to the steel 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, in accordance with EN 10244.

The tolerance on the opening of mesh 'M' being the distance between the axis of two consecutive twists, is according to EN 10223-3.

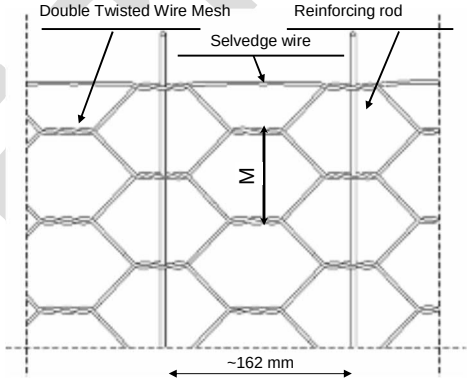

Figure 2: Reinforcing rods in DT mesh panels

Geotextile
The geotextile is a nonwoven polymer with a minimum weight of 250 g/m^2. It forms an internal lining for each cell, each lining is overlapped and attached to the top edge of the unit, while the lower part of the fabric is left loose to be folded internally on site to form a soil retention seal.
Galvanised staples are used to fasten the geotextile to the mesh panels to hold it in place.

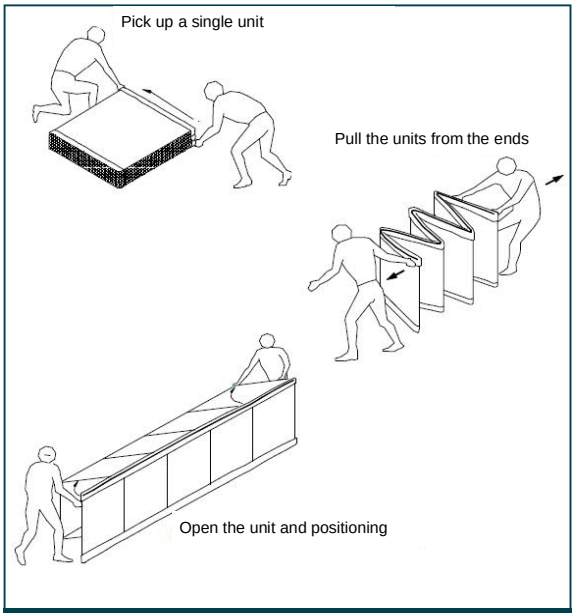

Figure 3: FLEXMAC® DT unit opening procedure

Tab.1 Mesh characteristics (EN 10223-3:2013)

Mesh type	M (mm)	Tolerance (mm)	Wire Ø (mm)
8x10	80	-0/+10	3.00

Tab. 2 Steel wire characteristics (EN 10218-2; EN 10244-2)

	M (mm)	Tolerance (mm)	Galmac coating (g/m^2)
DT Mesh wire	3.00	± 0.07	255
Spiral wire	3.00	± 0.07	255
Reinforcing rods	4.90	± 0.08	280
Selvedge wire	3.90	± 0.07	275
Pin wire	3.90	± 0.07	275

Figure 4: manual transportation of FLEXMAC® DT unit

Figure 5: filling operation

Figure 6: FLEXMAC® DT unit lifting operation

Figure 7: clean, fold and repackage the unit for next use

Table 3: Dimensions of FLEXMAC® DT units

Length (m)	Width (m)	Height (m)	Number of cells	Filled volume (m^3)	Average infill weight (ton)	Tolerance
1.5	0.5	0.5	3	0.375	0.5-0.6	Length ±5% Width ±5% Height ±5%
5.0	1.0	1.0	5	5.00	7.0-8.0	
5.0	1.0	1.4	5	7.00	9.8-11.2	
10.0	1.0	1.0	10	10.00	14.0-16.0	
10.0	1.0	1.4	10	14.00	19.6-22.4	

Assembly and installation

FLEXMAC® DT units are simple to installed as follows;

1. Remove each unit from the pallet; lift and unfold the unit by pulling it out straight (Fig. 3)
2. Join adjacent units longitudinally to form a continuous wall using connecting pins inserted through the spirals of adjacent unit corners.
3. Fold the bottom of the fabric liner inside each cell to form a soil retention seal during filling operations.
4. Fill the unit with suitable material, even that available on site (Fig. 5). Fill should be selected to achieve the desired function of the wall. Each unit shall be filled uniformly and it is recommended to begin from the central cells.

Following use, FLEXMAC® DT units can be lifted (allowing the fill to fall out), and stored for reuse.

The units can be lifted using the proper lifting frame and hooks able to grab the steel mesh at regular intervals along the perimeter of the unit (Fig. 6).

When two or more layers are stacked on each other, all tie wraps must be detached/cut prior to lifting of the uppermost unit. The lifting must be made slowly to allow for the soil to be uniformly and completely released from inside the cells. Following careful removal, FLEXMAC® DT can be re-used (Fig. 7).

Quantity request:

When requesting a quote, please specify: quantities per each size, length, width, height as per Table 3.

Example: FLEXMAC® DT 5.0x1.0x1.0 m.

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