diameter to manufacture a mesh fabric for use in the manufacture of a gabion according to this invention.

With reference now to Figure 1, a gabion 1 in a completely extended configuration comprises a plurality of double twist metal mesh fabrics. By the term "mesh fabric" is meant a single piece of mesh fabric woven in a single operation, that is without any joints or stitching. By "double twist mesh fabric" is generically meant a mesh fabric obtained from an array of wires extending substantially in the same direction that are twisted together. Preferably, but not restrictively, the wires are twisted together two by two to form a preferably hexagonal mesh. In the same woven area the wires are twisted together in the same direction of rotation (for example both clockwise or anticlockwise) and in the preferred embodiment of hexagonal mesh each wire is woven alternately in different areas of weaving with the wire located on its right and with the wire located on its left.

A first metal mesh fabric 10 comprises a first portion of mesh fabric 11 and a second portion of mesh fabric 12 manufactured with metal wires 14 and 13 respectively. Wires 13 have a greater diameter than wires 14, such that portion of mesh fabric 12 is manufactured with wires of greater diameter and therefore on the whole has greater strength than portion 11. Two panels 15 and 16 are joined laterally to mesh fabric 10. Mesh fabric 10 and panels 15 and 16, once joined together and folded along lines 17, 18 and 19, and along the joint between mesh fabric 10 and panels 15 and 16 comprise the six outer walls of a box structure, as may be seen in Figure ~~3~~. In particular, first portion 11 of mesh fabric 10 comprises base 20, rear wall 21 and top wall 22, second portion 12 comprises front wall 23 and panels 15 and 16 form side walls 24 and 25 respectively.

Front wall ~~12~~ is therefore made using a wire 13 of diameter greater than wire 14 of which the other walls are made. The Applicant has found that optimum values for the diameters of wires 14 used to manufacture first portion 11 of mesh fabric 10 are between 2.2 and 3 mm, while wires 13 with which second portion 12 of mesh fabric 10 is made preferably have a diameter of between 3.4 and 3.9 mm. These values may obviously change depending upon the specific application without going beyond the scope of the invention.

As may be seen in Figure 2 and in detail in Figure 3, mesh fabric 10 and panels 15 and 16 are finished at their outer edge with profiled wires or cables 30. Also, regardless of the particular geometry of the mesh fabric, twisted sides 31 of each mesh fabric are parallel to each other, and in at least mesh fabric 10 are parallel to a plane on which base 20 lies. In other words, the metal wires making up the mesh are arranged substantially in a horizontal direction when the gabion is assembled and in use, in base 20, and in walls 21, 22 and 23. In this way mesh fabric 10 can be bent with greater ease for transport without any problems arising at the time when the box structure is erected.

In Figure 1 side panels 15 and 16 are made of metal mesh fabric having wires of smaller diameter (that is similar to the diameter of the wires making up portion 11 of mesh fabric 10), attached to mesh fabric 10 by stitching, clipping or other known means of attachment. As in the figures, their orientation may be such that the twisted sides 31 of each mesh are substantially vertical, that is perpendicular to the plane of base 20. However one or both side panels may also be arranged with the twisted sides 31 of each mesh located substantially horizontally, that is parallel to the plane on which base 20 lies. Furthermore the

side walls may also be made together with walls 20, 21, 22 and 23 in a single mesh fabric obtained from a single weaving and then cut to the desired shape.

One or both of side panels 15 and 16 may also be manufactured using a mesh fabric having wires of larger diameter. In particular, when it is desired to construct structures with several side by side and superimposed gabions, it is preferable that the gabions located on the outside of the structure should have all their exposed walls reinforced. For this reason it may in some cases also be preferable to manufacture top wall 22 of mesh fabric having wire of larger diameter.

When the difference between the wires of larger diameter 13 and the wires of smaller diameter 14 is substantial, in order to limit any deformation of the mesh fabric lying at the boundary between one zone manufactured using wire of smaller diameter and one zone manufactured using wire of larger diameter it is particularly advantageous that at least one wire ~~26~~ of intermediate diameter should be inserted between a wire of smaller diameter and a wire of larger diameter, as better explained below with reference to the weaving process.

In the case of gabions having one side which is very much larger than the others additional panels may be provided fixed within the gabion to subdivide it into two or more parts. Such additional or divider panels are substantially of the same size as walls 24 and 25 and are secured within the gabion so that they are substantially parallel to them. Purely by way of example, a gabion of 1 m x 1 m x 2 m does not usually need dividers. It is however preferable that a longer gabion should be provided with them.

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Front wall 23 is therefore made using a wire 13 of diameter greater than wire 14 of which the other walls are made. The Applicant has found that optimum values for the diameters of wires 14 used to manufacture first portion 11 of mesh fabric 10 are between 2.2 and 3 mm, while wires 13 with which second portion 12 of mesh fabric 10 is made preferably have a diameter of between 3.4 and 3.9 mm. These values may obviously change depending upon the specific application without going beyond the scope of the invention.

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