

**GEOTEXTILE MAIN TUBE BODY, AUXILIARY TUBE BODY, CONNECTING
CONSTRUCTION METHOD OF MAIN TUBE BODY AND AUXILIARY TUBE
BODY**

TECHNICAL FIELD

The present invention relates to a structure for simple reclamation applied to reclamation and erosion landform, and more particularly, to a geotextile main tube body, an auxiliary tube body, a connecting construction method of the main tube body and the auxiliary tube body which have improved levelness after construction and have enhanced coupling force between the respective structures.

BACKGROUND ART

In general, a reclamation project is performed in such a manner that a revetment is installed in a coast or the like to fill up the sea between the installed revetment and shoreline. Further, recently, a technique of building the reclamation project and breakwaters after building a temporary revetment using the main tube body serving as a temporary structure has been suggested.

FIGS. 1 to 3 of the accompanying drawings are diagrams illustrating an aspect in which a main tube body according to the prior art is applied to perform reclamation works and the like, first, FIG. 1 is a cross-sectional view schematically illustrating an aspect in which three main

tube bodies 10 according to the prior art are installed on the coastal landform at which the reclamation works are to be performed.

As illustrated, typically, a temporary revetment has been conventionally constructed in a method of, after providing a plurality of main tube bodies 10 having a body section 12 provided with an internal housing section, injecting a dredged soil or the like into the internal housing section through an injection unit 14 provided in each body section 12.

Here, the body section 12 of the main tube body 10 is made of a geotextile material and has a significant magnitude. Further, the body section 12 is configured so that an installed position is not easily moved even by shock due to tidal currents after the injection.

However, as illustrated, when providing a plurality of the main tube bodies 10 according to the prior art, since a structural space portion is formed at a part indicated by an arrow displayed between both the main tube bodies 10, an upper levelness is not maintained in the entire temporary revetment structure due to the aforementioned space portion. Thus, the tidal currents may continuously go over through the connection unit between the body sections 12 of the main tube body 10, and there was a problem of leading to a considerable discomfort in the work due to the levelness that cannot be maintained even when separately constructing

a reinforcing structure which wraps around the outside of the main tube body 10.

To solve this problem, recently, a tube body as illustrated in attached FIG. 2 has also been applied.

FIG. 2 is a diagram illustrating an aspect in which an auxiliary tube body 20 is applied to a space portion between each of the main tube bodies 10, after installing a plurality of main tube bodies 10.

In such a case, the upper levelness of the entire tube bodies is improved over the technique of FIG. 1 to facilitate a subsequent reinforcement work or the like.

However, even in such a case, when a strong tidal current occurs, there is a problem in which the relatively small auxiliary tube body 20 is readily separated. In addition, since each of the main tube bodies 10 and the auxiliary tube bodies 20 does not form a fully coupled state, it was structurally unstable.

Meanwhile, as illustrated in FIG. 3, a temporary revetment is also formed in a form of being applied by laminating a plurality of main tube bodies 10. In such a case, since the main tube bodies 10 having a considerable size are applied by being laminated, there is an advantage of having an enhanced stability against the strong tidal current. However, like the above-described techniques, since a space portion is also formed between the main tube bodies 10 positioned at the top, there are still problems in

which the levelness cannot be entirely adjusted, working inconveniences occur and a risk occurs in the working environment due to an occurrence of collapse of the upper main tube bodies 10 at the time of a strong tidal current.

DISCLOSURE

TECHNICAL PROBLEM

The present invention has been devised to solve the aforementioned conventional problems and the drawbacks, and objects of the present invention are as follows:

A first object of the present invention is to be able to smoothly maintain the levelness of the overall structure when constructing the temporary revetment using a plurality of tube bodies.

A second object of the present invention is to allow the coupling between each of the main tube bodies and easier coupling works when applying a plurality of main tube bodies.

A third object of the present invention is to allow an application of a separate structure capable of filling a space portion between the main tube bodies so that the structure and the main tube bodies can be coupled to each other and the coupling works are also easily performed.

The objects of the present invention are not limited to the aforementioned objects, and other objects that have not been mentioned will be able to be clearly understood by those skilled in the art from the following description.

TECHNICAL SOLUTION

According to an aspect of the present invention, there is provided a geotextile main tube body which includes a body section formed with an internal housing section, an injection unit which is provided in the body section to allow injection of a dredged soil into the housing section, and a coupling section which is provided to protrude to both sides of the body section after expansion of the body section at heights and directions corresponding to each other.

Here, the coupling section may be provided with at least one or more first connection coupling holes which allows mutual coupling to the coupling section of the adjacent body section in a direction intersecting with a longitudinal direction of the body section.

Also, the first connection coupling hole may have a ring shape, and the coupling section may be further provided with a reinforcing ring along the periphery of the first connection coupling hole.

Also, the coupling section may be further provided with reinforcing sections on both sides of the first connection coupling hole on the basis of the longitudinal direction of the body section.

Moreover, the reinforcing section may be made up of sewing sections which are provided in a row on the coupling

section.

Moreover, the sewing sections may be provided to form a plurality of rows on the coupling section for each of predetermined spaced intervals.

In addition, the coupling section may be integrally formed with the body section.

Moreover, the body section may be further provided with each of a pair of auxiliary coupling sections on both sides of the body section, along the outer peripheral portion of the body section in the direction intersecting with the longitudinal direction of the body section.

Further, the auxiliary coupling section may be coupled to the body section by the sewing section.

In addition, the coupling section may be further provided with an auxiliary through-hole which allows the easier injection of the dredged soil from the top to the bottom, around the coupling section when coupling the pair of body sections by utilizing the coupling section.

In addition, the auxiliary coupling section may be provided with a plurality of second connection coupling holes for each of the predetermined spaced intervals along the longitudinal direction of the auxiliary coupling section.

In addition, the second connection coupling hole may have a ring shape, and a reinforcing ring may be further included along the periphery of the second connection coupling hole.

In addition, the auxiliary coupling section may be further provided with a reinforcing section on at least one side of the second connection coupling hole on the basis of the longitudinal direction of the auxiliary coupling section.

Moreover, the reinforcing section may be made of sewing sections arranged in a row along the longitudinal direction of the auxiliary coupling section.

Also, the sewing sections may be disposed in a plurality of rows in the auxiliary coupling section for each preset spaced interval.

In addition, the auxiliary coupling section may include a first auxiliary coupling section which is coupled to the body section, and a second auxiliary coupling section which is folded from the facing portion and is provided with the second connection coupling holes.

Meanwhile, according to another aspect of the present invention, there is provided a geotextile auxiliary tube body which includes an auxiliary body section which is configured to wrap around the outside of the body section of the main tube body, and third connection coupling holes which are provided on both sides of the auxiliary body along the periphery of the auxiliary body section.

Here, the auxiliary body may be further provided with a reinforcing section on at least one side of the third connection coupling holes.

Moreover, the reinforcing section may be made up of

sewing sections which are made up of a plurality of rows.

Meanwhile, according to still another aspect of the present invention, there is provided a method of connecting and constructing a main tube body and an auxiliary tube body, the method including: installing an auxiliary tube body so as to simultaneously cover and wrap around the connection portions of the two main tube bodies after disposing the main tube bodies on both sides; coupling a third connection coupling hole of the auxiliary tube body to the second connection coupling hole of the auxiliary coupling section of the one main tube body; coupling the coupling sections of the one main tube body and the other main tube body by utilizing a coupling rope; and coupling a third connection coupling hole of the auxiliary tube body to the second connection coupling hole of the auxiliary coupling section of one main tube body by utilizing a coupling rope.

Moreover, the method may further include injecting the dredged soil into the main tube body.

Moreover, the method may further include injecting the dredged soil into the auxiliary tube body, after injection of the dredged soil into the both main tube bodies.

Moreover, auxiliary coupling sections may be further provided on both sides along the longitudinal direction of the body section.

The auxiliary coupling section may be provided with an auxiliary connection coupling hole which allows

interconnection with the auxiliary coupling section of the adjacent body section along the longitudinal direction of the body section.

ADVANTAGEOUS EFFECTS

Effects of the main tube body, the auxiliary tube body, and the method of connecting and constructing the main tube body and the auxiliary tube body according to an embodiment of the present invention thus configured will be described as follows:

First, according to the main tube body, the auxiliary tube body, and the method of connecting and constructing the main tube body and the auxiliary tube body according to an embodiment of the present invention, there are effects in which the temporary revetment is constructed using the main tube body and the auxiliary tube body such that the main tube body and the auxiliary tube body are entirely coupled to a single structure. In particular, the levelness is improved so that the main tube body and the auxiliary tube body are coupled to each other while entirely forming a horizontal state, and the respective tube bodies are rigidly coupled by the coupling ropes, and thus, there is no position movement or separation even by a strong tidal current.

Second, according to the main tube body, the auxiliary tube body, and the method of connecting and constructing the

main tube body and the auxiliary tube body according to an embodiment of the present invention, there is an effect in which a revetment construction work is conveniently performed by applying the connection coupling holes having the same structure to the coupling structure between each tube body to be coupled by using the coupling ropes.

Third, according to the main tube body, the auxiliary tube body, and the method of connecting and constructing the main tube body and the auxiliary tube body according to an embodiment of the present invention, there is an effect of being able to effectively coping with the strong injection pressure such as the dredged soil, by applying a folded structure to the coupling section structure of the auxiliary tube body coupled to the main tube body.

The effects of the present invention are not limited to the above-mentioned effects, and other effects that have not been mentioned will be clearly understood by those skilled in the art from the scope of the claims.

It should be understood that different embodiments of the invention, including those described under different aspects of the invention, are meant to be generally applicable to all aspects of the invention. Any embodiment may be combined with any other embodiment unless inappropriate. All examples are illustrative and non-limiting.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagram schematically illustrating an aspect in which a plurality of tube bodies according to the prior art are installed;

FIG. 2 is a diagram schematically illustrating a state of applying the auxiliary tube body after installing a plurality of tube bodies according to the prior art;

FIG. 3 is a diagram schematically illustrating an aspect in which the plurality of tubes bodies according to the prior art are installed by being laminated;

FIG. 4 is an external perspective view illustrating a state before injection of a dredged soil or the like into the geotextile main tube body according to an embodiment of the present invention;

FIG. 5 is an external perspective view illustrating a state in which the geotextile main tube body according to an embodiment of the present invention is expanded;

FIG. 6 is a side view illustrating a state in which the geotextile main tube body according to an embodiment of the present invention is expanded;

FIG. 7 is an enlarged cross-sectional view illustrating a state in which the auxiliary coupling section is applied to the body section in the geotextile main tube body according to an embodiment of the present invention;

FIG. 8 is an external perspective view illustrating the geotextile auxiliary tube body according to an embodiment of

the present invention;

FIG. 9 is a perspective view illustrating an aspect before coupling between the geotextile main tube body and the auxiliary tube body according to an embodiment of the present invention;

FIG. 10 is a perspective view illustrating an aspect in which coupling sections of the main tube body are installed so as to be simultaneously wrapped using the geotextile auxiliary tube body according to an embodiment of the present invention;

FIG. 11 is a diagram illustrating an aspect in which an auxiliary tube body is coupled to the auxiliary coupling section of the main tube body according to an embodiment of the present invention;

FIG. 12 is a diagram illustrating an aspect in which the coupling sections of both main tube bodies are coupled using the coupling roles, after folding the auxiliary tube body according to an embodiment of the present invention;

FIG. 13 is an external perspective view illustrating a state in which a pair of the auxiliary coupling sections and the main tube bodies according to an embodiment of the present invention are coupled to each other;

FIG. 14 is a side cross-sectional view illustrating a state in which a pair of main tube bodies and the auxiliary coupling sections according to an embodiment of the present invention are coupled to each other;

FIG. 15 is a diagram illustrating a state of injecting the dredged soil into either side of the main tube body;

FIG. 16 is a diagram illustrating a state of injecting a dredged soil into the auxiliary tube body;

FIG. 17 is a diagram illustrating a coupling section of a main tube body according to another embodiment of the present invention;

FIG. 18 is a side view illustrating a state in which a geotextile main tube body to which the auxiliary coupling section according to another embodiment of the present invention is applied is expanded;

FIG. 19 is a diagram illustrating an aspect in which the auxiliary tube body is coupled to the auxiliary coupling section of the main tube body according to another embodiment of the present invention;

FIG. 20 is a side view illustrating a state in which a geotextile main tube body to which the auxiliary coupling section according to still another embodiment of the present invention is applied is expanded;

FIG. 21 is a diagram illustrating an aspect in which the auxiliary tube body is coupled to the auxiliary coupling section of the main tube body according to still another embodiment of the present invention;

FIG. 22 is a diagram illustrating a state in which the auxiliary coupling section is applied to a geotextile main tube body according to an embodiment of the present

invention;

FIG. 23 is a diagram illustrating an aspect in which the main tube body of FIG. 22 is expanded; and

FIG. 24 is a diagram in which an installed aspect of the main tube body and the auxiliary tube body according to embodiments of the present invention is compared to an installed aspect of the conventional tube body.

BEST MODE FOR THE INVENTION

Exemplary embodiments of the present invention will be described below in more detail with reference to the accompanying drawings. The present invention may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the present invention to those skilled in the art. Throughout the disclosure, like reference numerals refer to like parts throughout the various figures and embodiments of the present invention.

FIG. 4 is a perspective view illustrating a state before the dredged soil is filled in the interior of the main tube body according to an embodiment of the present invention, FIG. 5 is an external perspective view illustrating a state in which the main tube body of FIG. 4 is expanded, and FIG. 6 is a side cross-sectional view of

the main tube body of FIG 5.

As illustrated, a main tube body 100 according to an embodiment of the present invention includes a body section 110, an injection unit 112 and a coupling section 120. Here, the body section 110 is made of a flexible geotextile material, and has a tube form in which an internal housing section is formed.

And, the body section 110 is provided with an injection unit 112 through which the inner and outer portions communicate with each other so as to allow injection of the dredged soil or the like into the internal housing section.

Meanwhile, the coupling section 120 is provided to protrude on both sides of the body section 110 at a height and a direction corresponding to each other, after the body section 110 is expanded. As illustrated, the coupling section 120 has a predetermined width in the direction intersecting with the longitudinal direction of the body section 110, and has a rectangular strip shape.

The coupling section 120 is applied in the horizontal direction to the ground, and the coupling section 120 is preferably performed integrally with the body section 110.

Then, the coupling section 120 is provided with first connection coupling holes 191 along a direction intersecting with the longitudinal direction of the body section 110 for each predetermined spaced interval.

Here, the first connection coupling holes 191 are

formed in a ring shape, and as illustrated, a plurality of first connection coupling holes 191 are provided in a row along the longitudinal direction of the coupling section 120 for each predetermined spaced interval.

Although it is not illustrated in detail, preferably, the coupling section 120 is further provided with a metallic reinforcing ring (not illustrated) along the peripheral portion of the first connection coupling holes 191 so that the durability of the peripheral portion of the first connection coupling holes 191 is enhanced when connecting the two main tube bodies 100 using a coupling rope 50 described later (see FIG. 11).

Meanwhile, the coupling section 120 is further provided with reinforcing sections 124 on both sides of the first connection coupling holes 191 on the basis of the longitudinal direction of the body section 110.

The reinforcing section 124 forms a component that serves to structurally enhance the strength of the both coupling sections 120 of the first connection coupling holes 191 when being fastened to the first connection coupling holes 191 using the coupling rope. Therefore, in the present embodiment, the reinforcing section 124 may be made up of a sewing section which is applied along the longitudinal direction of the coupling section 120.

The sewing section 124 is preferably applied while forming a plurality of lines for each preset spaced

intervals, as illustrated.

Meanwhile, the main tube body 100 according to the present embodiment is further provided with a pair of auxiliary coupling sections 140 in the form of being coupled to both sides of the body section along the outer periphery of the body section 110 in a direction intersecting with the longitudinal direction of the body section 110.

FIG. 6 is an enlarged cross-sectional view illustrating a state in which the auxiliary coupling section is applied to the body section in the geotextile main tube body according to an embodiment of the present invention. Referring to FIGS. 4 and 7, the auxiliary coupling section 140 forms a strip shape having a predetermined length, and is coupled to the body section 110 by the sewing section 124.

Further, the auxiliary coupling section 140 is provided with a plurality of second connection coupling holes 192 along the longitudinal direction of the auxiliary coupling section 140. Here, the second connection coupling hole 192 has also a ring shape, and a reinforcing ring (not illustrated) is also preferably applied along the periphery of the second connection coupling hole 192.

Moreover, a reinforcing section 124 is provided on at least one side of the second connection coupling hole 192 on the basis of the longitudinal direction of the auxiliary coupling section 140. Further, the reinforcing section 124 is made up of the sewing sections provided in a row along

the longitudinal direction of the auxiliary coupling section 140.

Meanwhile, the auxiliary coupling section 140 has a folded form, and is configured to include a first auxiliary coupling section 147 coupled to the body section 110, and a second auxiliary coupling section 148 provided with a second connection coupling hole 192.

Here, the first auxiliary coupling section 147 and the first auxiliary coupling section 148 form a state of being folded in opposite directions to each other in the body section 110.

FIG. 8 is an external perspective view illustrating a geotextile auxiliary tube body 200 according to an embodiment of the present invention, and the present invention provides the geotextile auxiliary tube body 200 that includes an auxiliary body section 210 forming an external form, and third connection coupling holes 193.

The auxiliary body section 210 is formed so as to wrap around the outer portion of the body section 110 of the main tube body 100. In more detail, the auxiliary body section 210 is adhered to the outside of the auxiliary coupling section 140, and is configured to wrap around the outer periphery of the auxiliary coupling section 140. Therefore, the auxiliary body section 210 forms a drum-shaped tube body so that both sides are opened when it is fully expanded.

Further, the third connection coupling hole 193 is

provided to form a position which corresponds to the second connection coupling holes 192 of the auxiliary coupling section 140 installed in the main tube body 100 on both sides of the auxiliary body section 210.

Meanwhile, the sewing sections 124 forming a plurality of lines as the reinforcing sections are applied on both sides on the basis of the third connection coupling holes 193, and thus, the auxiliary tube body 200 may also form a configuration with improved durability.

Hereinafter, a method of injecting a dredged soil after the installation and coupling of the main tube body and the auxiliary tube body configured as described above will be described.

FIG. 9 is a perspective view illustrating an aspect before coupling of the geotextile main tube body and the auxiliary tube body according to an embodiment of the present invention.

As illustrated, the main tube body 100 and the auxiliary tube body 200 are installed at a position where the temporary revetment construction work attempts to be performed. At this time, the main tube bodies 100 are disposed on both sides of a single auxiliary tube body 200.

Thereafter, the auxiliary tube body 200 is located in a form of simultaneously covering and wrapping around the pair of main tube bodies 100, and this state is illustrated in FIG. 10.

Next, as illustrated in FIG. 11, a process of coupling one side of the auxiliary tube body 200 to the auxiliary coupling section 140 of one main tube body 100 of the pair of main tube bodies 100 disposed on both sides around the auxiliary tube body 200 is performed.

That is, after matching the third connection coupling holes 193 of the auxiliary tube body 200 to the second connection coupling holes 192 of the auxiliary coupling section 140, one side of the auxiliary tube body 200 is completely coupled to the auxiliary coupling section 140 in such a manner that the second connection coupling holes 192 and the third connection coupling hole 193 are simultaneously and sequentially penetrated using the coupling rope 50.

Next, as illustrated in FIG. 12, after folding the other side of the auxiliary tube body 200 to the outside, the coupling sections 120 of both main tube bodies 100 are coupled to each other using the coupling rope 50. That is, after disposing the coupling section 120 of the both main tube bodies 100 in such a manner that the first connection coupling holes 191 are penetrated to overlap with each other, the coupling sections 120 of both main tube bodies 100 are coupled using the coupling rope 50.

Thereafter, after other side portion of the folded auxiliary tube body 200 is located in an original state to cover the one side of the other main tube body 100, as

described above, the third connection coupling holes 193 of the auxiliary tube body 200 are mated with the second connection coupling holes 192 of the auxiliary coupling section 140 of the other main tube body 100, and thereafter, the other side of the auxiliary tube body 200 is coupled to the auxiliary coupling section 140 using the coupling rope 50.

The state in which the two main tube bodies 100 and the auxiliary tube body 200 are completely coupled to each other is illustrated in FIGS. 13 and 14.

FIG. 15 is a diagram illustrating a state of injecting the dredged soil into the main tube body.

As illustrated, after completing the coupling process of the above-mentioned main tube bodies 100 and the auxiliary tube body 200, a process of inflating the body section 110 by injecting the dredged soil using the injection unit 112 of the main tube body 100 is performed.

Thereafter, as illustrated in FIG. 16, the auxiliary tube body 200 is expanded by injecting the dredged soil into the auxiliary tube body 200 using the injection unit of the auxiliary tube body 200. At this time, by grasping the degree of injection of the dredged soil or the like using the auxiliary coupling section 140 set in a folded state, an entirely structural safety is obtained, and it is possible to inject the dredged soil or the like.

Although FIGS. 14 to 16 illustrate only a form in which

the two main tube bodies and the auxiliary tube are coupled to each other, it is a matter of course that a greater number of main tube bodies and auxiliary tube bodies are applied corresponding to the length of the temporary revetment.

According to the main tube body, the auxiliary tube body, and the method of connecting and constructing the main tube body and the auxiliary tube body according to an embodiment of the present invention having the above-described configuration, the temporary revetment is constructed using the main tube body 100 and the auxiliary tube body 200 so that the main tube body 100 and the auxiliary tube body 200 form an overall single structure.

At this time, a state in which each of the tube bodies 100, 200 is rigidly fixed by the coupling rope 50 is obtained, and thus, there is an effect of preventing the position movement or separation even by strong tidal currents. In addition, since the main tube body 100 and the auxiliary tube body 200 are in an overall horizontal state, there is an advantage of allowing a stable work on the installation of the subsequent reinforcing structure.

Furthermore, there is an advantage of effectively coping with the strong injection pressure of the dredged soil or the like, by applying the folding structure at the coupling section between the main tube body and the auxiliary tube body.

Meanwhile, in the above-mentioned embodiment, when the size of the first connection coupling holes 191 is insufficient, injection of the dredged soil may not be smoothly performed at the bottom of the auxiliary tube body 200 around the coupling section 120 depending on the thickness of the coupling ropes 50.

Therefore, as illustrated in FIG. 17, it is also possible to further provide an auxiliary through-hole 120B which allows an easier injection of the dredged soil from the top to the bottom around the coupling section 120.

As illustrated in FIGS. 18 and 19, the auxiliary coupling section 140 may be in the form of being coupled to the body section 110 in a folded state in an opposite direction to the case of FIG. 6 in view of cross section.

Even in this case, the auxiliary coupling section 140 is provided with a plurality of second connection coupling holes 192 along the longitudinal direction of the auxiliary coupling section 140, and is provided with a reinforcing section 124.

Furthermore, as illustrated in FIGS. 20 and 21, it is a matter of course that the auxiliary coupling section 140 may be coupled to the auxiliary coupling section in the open form rather than the folded state.

FIG. 22 is a diagram illustrating a state in which the auxiliary coupling section applied to the geotextile main tube body according to an embodiment of the present

invention, and FIG. 23 is a diagram illustrating an expanded state of the main tube body of FIG. 22.

FIGS. 22 and 23 illustrate shapes where the auxiliary coupling sections 320 are further provided on both sides along the longitudinal direction of the body section.

Even in this case, it is a matter of course that the auxiliary coupling section 320 is provided with an auxiliary connection coupling hole 391 which interconnects it to the auxiliary coupling section of the adjacent body section 110 along the longitudinal direction of the body section 110, and the sewing section 324 is applied.

In the case of this embodiment, it is also possible to maintain the coupling state with the main tube body adjacent even in the side direction of the body section 110.

Meanwhile, as described above, according to the geotextile main tube body, the auxiliary tube body, and the method of connecting and constructing the main tube body and the auxiliary tube body according to the present embodiments, as illustrated in FIG. 24, since they can be installed in lake and sea in the state of completely coupling between the main tube bodies, it is possible to stably flatten the connection section as compared to a case where the tube bodies are conventionally separated and disengaged from each other, and thus, horizontal installation and maintenance are possible on a water surface.

As described above, the preferred embodiments of the

present invention have been described, and it will be apparent to those having ordinary skill in the art that present invention can be embodied in other specific forms without departing from its spirit and categories, in addition to the above-described embodiments. Therefore, the above-described embodiments should be regarded in an illustrative sense rather than a restrictive sense, and accordingly, the present invention may also be modified within the categories of the appended claims and their equivalents without being limited to the above description.

CLAIMS:

1. A structure applicable for reclamation and/or erosion landform comprising:

a plurality of geotextile main tube bodies being arranged in an end-to-end fashion, each main tube body comprising a flexible body section enclosing an internal housing section with a pair of auxiliary coupling sections fabricated on both sides of the body section along the outer periphery of the body section in the direction intersecting with the longitudinal direction of the body section, the auxiliary coupling section carrying a plurality of second connection coupling holes each being spaced from one another at a predetermined interval along the longitudinal direction of the auxiliary coupling section,

an injection unit on the body section allowing injection of a dredged soil into the housing section, and each opposing side of the body section carrying a coupling section that the coupling sections are at heights corresponding to each other, the coupling section being provided with at least one or more first connection coupling holes for mutual coupling to a coupling section of an adjacent main tube body in a direction intersecting with a longitudinal direction of the body section; and

one or more geotextile auxiliary tube body each comprising a flexible auxiliary body section defining a hollow space accessible by one opening at each of two

opposing ends, the auxiliary tube body being fabricated with an auxiliary coupling section having a plurality of third connection coupling holes which are provided on both sides of the auxiliary body section along the periphery of the auxiliary body section, the auxiliary tube body wrapping around enclosing the joined coupling sections of two coupled adjacent main tube bodies, the auxiliary tube body being fashioned to secured to the enclosing coupled main tube bodies through the third and second connection coupling holes using a coupling rope,

wherein the secured main tube bodies and auxiliary tube body form the structure upon injection of dredged soil into the main and auxiliary tube bodies in which the joined coupling sections of two coupled adjacent main tube bodies are enveloped by the dredged soil injected into the auxiliary tube body.

2. The structure of claim 1, wherein the first connection coupling hole has a ring shape, and

the coupling section is further provided with a reinforcing ring along the periphery of the first connection coupling hole.

3. The structure of claim 1, wherein the coupling section is further provided with reinforcing sections on

both sides of the first connection coupling hole on the basis of the longitudinal direction of the body section.

4. The structure of claim 3, wherein the reinforcing section is made up of sewing sections which are provided in a row on the coupling section.

5. The structure of claim 4, wherein the sewing sections are provided to form a plurality of rows on the coupling section for each of predetermined spaced intervals.

6. The structure of claim 1, wherein the coupling section is integrally formed with the body section.

7. The structure of claim 1, wherein the auxiliary coupling section is coupled to the body section by the sewing section.

8. The structure of claim 1, wherein the coupling section is further provided with an auxiliary through-hole which allows the easier injection of the dredged soil from the top to the bottom, around the coupling section when coupling the pair of body sections by utilizing the coupling section.

9. The structure of claim 1, wherein the auxiliary

coupling section is provided with a plurality of second connection coupling holes for each of the predetermined spaced intervals along the longitudinal direction of the auxiliary coupling section.

10. The structure of claim 1, wherein the second connection coupling hole has a ring shape, and

a reinforcing ring is further provided along the periphery of the second connection coupling hole.

11. The structure of claim 1, wherein the auxiliary coupling section is further provided with a reinforcing section on at least one side of the second connection coupling hole on the basis of the longitudinal direction of the auxiliary coupling section.

12. The structure of claim 11, wherein the reinforcing section is made up of sewing sections arranged in a row and in parallel to an installation direction of a second connection coupling hole applied to the auxiliary coupling section.

13. The structure of claim 12, wherein the sewing sections are disposed in a plurality of rows in the auxiliary coupling section for each preset spaced interval.

14. The structure of claim 1, wherein the auxiliary coupling section comprises:

a first auxiliary coupling section which is coupled to the body section, and

a second auxiliary coupling section which is folded from a facing portion and is provided with the second connection coupling holes.

15. The structure of claim 1, wherein the auxiliary body is provided with a reinforcing section in parallel to a disposition direction of the third connection coupling holes.

16. The structure of claim 1, wherein the reinforcing section is made up of sewing sections which are made up of a plurality of rows.

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ABSTRACT

The present invention relates to a tube body for reclamation project which has improved levelness after construction and has enhanced coupling force between the respective structures. To this end, the present invention provides a geotextile main tube body which includes a body section which is formed with an internal housing section, an injection unit which is provided in the body section to allow injection of a dredged soil into the housing section, and a coupling section which is provided to protrude to both sides of the body section after expansion of the body section at heights and directions corresponding to each other.

FIG. 4