top part, so as to prestress the diaphragm wall.

The production of the diaphragm wall is completed by the injection of a cement grout into the ducts receiving the prestressing tendons.

Such a prestressing of the diaphragm wall allows the thickness thereof to be reduced for the same strength (compared to a diaphragm wall without prestressing tendons).

Nonetheless, the method of manufacture described hereinabove is complex to carry out, since it requires the placement of the ducts forming prestressing channels, the prestressing tendons, the anchoring of these tendons and the injection of cement grout into the prestressing ducts.

Another drawback concerns the uncertain quality of the anchorage, connected to the possible heterogeneities in the concrete which can comprise localised defects such as water, drilling mud or soil inclusions.

Moreover, the prestressing tendons are subjected to external attacks, in particular corrosion, and local corrosion of the tendons is not uncommon before the placement and full hardening of the concrete and grouting, this corrosion significantly affecting the capacity and safety of the wall.

The purpose of the invention is to at least partially overcome these drawbacks.

For this purpose, according to an aspect, the present disclosure relates to an anchor device for a prestressed diaphragm wall, comprising at least one prestressing reinforcement and a sleeve encasing said at least one prestressing reinforcement and forming an anchorage for said at least one prestressing reinforcement in the diaphragm wall, a length of the anchor sleeve being strictly less than a length of said at least one prestressing reinforcement, the anchor sleeve comprising a sealing material disposed in such a way as to coat each prestressing reinforcement, the anchor device

comprising a corrosion-resistant coating of each prestressing reinforcement over all the length of each prestressing reinforcement, the anchor device further comprising a first sealed plug in an overlap zone between a part of said at least one prestressing reinforcement in the anchor sleeve and a part of said at least one prestressing reinforcement above the anchor sleeve, wherein each prestressing reinforcement comprises an individual protecting duct provided around the part of each prestressing reinforcement above the anchor sleeve, and wherein the anchor device further comprises a second sealed plug positioned beneath a first base forming a bottom of the sleeve, wherein the corrosion-resistant coating comprises the individual protecting duct, said individual protecting duct protecting individually each prestressing reinforcement only in the part of each prestressing reinforcement disposed above the anchor sleeve. The method of manufacturing

CLAIMS

1. An anchor device for a prestressed diaphragm wall, comprising at least one prestressing reinforcement and a sleeve encasing said at least one prestressing reinforcement and forming an anchorage for said at least one prestressing reinforcement in the diaphragm wall, a length of the anchor sleeve being strictly less than a length of said at least one prestressing reinforcement, the anchor sleeve comprising a sealing material disposed in such a way as to coat each prestressing reinforcement, the anchor device comprising a corrosion-resistant coating of each prestressing reinforcement over all the length of each prestressing reinforcement, the anchor device further comprising a first sealed plug in an overlap zone between a part of said at least one prestressing reinforcement in the anchor sleeve and a part of said at least one prestressing reinforcement above the anchor sleeve, wherein each prestressing reinforcement comprises an individual protecting duct provided around the part of each prestressing reinforcement above the anchor sleeve, and wherein the anchor device further comprises a second sealed plug positioned beneath a first base forming a bottom of the sleeve, wherein the corrosion-resistant coating comprises the individual protecting duct, said individual protecting duct protecting individually each prestressing reinforcement only in the part of each prestressing reinforcement disposed above the anchor sleeve.

2. The anchor device according to one of the preceding claims, wherein the corrosion-resistant coating further comprises a material for coating the at least one prestressing reinforcement in part of the at least one prestressing reinforcement disposed above the anchor sleeve.

3. The anchor device according to claim 2, wherein the coating material has a shear strength negligible relative to a force developed by each prestressing reinforcement during a tensioning of said prestressing reinforcement.

4. The anchor device according to one of the preceding claims, wherein the corrosion-resistant coating comprises the sealing material disposed in

contact with the at least one prestressing reinforcement in the sleeve in a part of the at least one prestressing reinforcement disposed within the sleeve.

5. The anchor device according to one of the preceding claims, wherein the sleeve comprises an outer surface provided with rough areas.

6. The anchor device according to the preceding claim, wherein the sleeve comprises an outer surface provided with rough areas, the rough areas being are formed by at least one of ringed ridges and ribs.

7. The anchor device according to one of the preceding claims, comprising a duct for encapsulating a sheath of the anchor sleeve.

8. The anchor device according to one of the preceding claims, wherein said at least one prestressing reinforcement comprises a plurality of wires spread out and bent back in the anchor sleeve.

9. The anchor device according to one of the preceding claims, wherein the sealing material is a mortar.

10. The anchor device according to one of the preceding claims, wherein the length of the anchor sleeve lies in the range 2% to 50% of the length of said at least one prestressing reinforcement.

11. The anchor device according to claim 10, wherein the length of the anchor sleeve lies in the range 2% to 20% of the length of said at least one prestressing reinforcement.

12. The anchor device according to one of the preceding claims, wherein the sealing material is an ultra-high performance fibre-reinforced concrete type or a cement grout.

13. The anchor device according to one of the preceding claims, wherein each prestressing reinforcement has a slenderness that lies in the range 10 to 30.

14. The anchor device according to claim 13, wherein each prestressing

reinforcement has a slenderness of about 20.

15. The anchor device according to one of the preceding claims, wherein the first plug is positioned on a second base forming an interface between the part of said at least one prestressing reinforcement in the anchor sleeve and the part of said at least one prestressing reinforcement above the anchor sleeve.

16. A prestressed diaphragm wall comprising at least one anchor device according to one of the preceding claims, wherein the anchor sleeve is sealed in a portion of the diaphragm wall.

17. A method of manufacturing a diaphragm wall, comprising:

- a step of excavating in the ground,

- a step of inserting, into the excavation, a reinforcement cage provided with at least one anchor device according to one of claims 1 to 15,

- a step of pouring concrete into the excavation provided with the reinforcement cage and with said at least one anchor device,

- a step of tensioning each prestressing reinforcement of said at least one anchor device.

18. The method according to claim 18, wherein the at least one anchor device is manufactured in full before the manufacturing of the diaphragm wall.