CLAIMS

1. A fluidtight and thermally insulated tank built into a structure that includes a load-bearing wall, said tank having a tank wall attached to said load-bearing wall, the tank wall comprising:

- a thermal insulation barrier held on the load-bearing wall and made up of cuboid thermally insulating blocks, juxtaposed in parallel rows separated from one another by gaps,

- a fluidtight barrier carried by the thermal insulation barrier, said fluidtight barrier comprising a metal membrane formed of metal sheets welded together sealingly,

- at least some of the thermally insulating blocks of the thermal insulation barrier carrying, on the face of same opposite the load-bearing wall, at least two substantially orthogonal metal connecting strips, arranged parallel to the sides of the thermally insulating blocks, the sheets of the metal membrane carried by said thermally insulating blocks being welded to said strips, said connecting strips being rigidly connected to the thermally insulating blocks bearing same and being seated in recesses arranged in the thermally insulating blocks bearing same,

- a plurality of sheets of the metal membrane each having at least two orthogonal folds parallel to the sides of the thermally insulating blocks, said folds being inserted in the gaps formed between the thermally insulating blocks.

2. The tank as claimed in claim 1, wherein the tank wall has a primary element and a secondary element arranged between the load-bearing wall and the primary element, both the primary element and the secondary element including a thermal insulation barrier made up of cuboid thermally insulating blocks, juxtaposed in parallel

rows and both the primary and secondary elements including a fluidtight barrier arranged on the thermal insulation barrier, the thermal insulation barrier of the secondary element being rigidly connected to the load-bearing wall, the thermal insulation barrier of the primary element being rigidly connected using attachment means connected to the thermal insulation barrier of the secondary element.

3. The tank as claimed in claim 2, wherein the fluidtight barrier of the secondary element is formed by the metal membrane comprising a plurality of sheets each having at least two orthogonal folds parallel to the sides of the thermally insulating blocks, inserted in the gaps formed between the thermally insulating blocks of the secondary element.

4. The tank as claimed in claim 3, wherein the sheets of the metal membrane of the secondary element are made of an alloy of iron with nickel or manganese, having a coefficient of expansion not exceeding $7\times10^{-6}\ K^{-1}$.

5. The tank as claimed in claim 2, wherein the fluidtight barrier of the primary element is formed of metal sheets welded together sealingly, with folds oriented towards the inside of the tank.

6. The tank as claimed in claim 2, wherein each of the thermally insulating blocks of the thermal insulation barrier has a base plate on which is arranged a foam layer, the base plate overhanging the foam.

7. The tank as claimed in claim 6, wherein each of the thermally insulating blocks of the thermal insulation barrier of the secondary element is pressed against the load-bearing wall using fixtures welded to the load-bearing wall and cooperating with the overhanging zones of the base plates of the thermally insulating block.

8. The tank as claimed in claim 2, wherein each of the thermally insulating blocks of the thermal insulation barrier of the secondary element is held on the load-bearing wall by bonding.

9. The tank as claimed in claim 2, wherein each of the thermally insulating blocks of the thermal insulation barrier of the secondary element carries the two connecting strips that are arranged along the two axes of symmetry of the rectangle defined by a large face of said thermally insulating block.

10. The tank as claimed in claim 9, wherein the attachment means of the thermal insulation barrier of the primary element include a continuous metal plate arranged at the crossing of the two connecting strips of each of thermally insulating blocks of the secondary element, and a projecting member crossing the fluidtight barrier of the secondary element without reaching the fluidtight barrier of the primary element.

11. The tank as claimed in claim 10, wherein the projecting members are studs, the bases of which are attached to the continuous metal plate of the thermally insulating blocks of the secondary element, an intermediate part being interposed between firstly a nut cooperating with the thread provided at the free extremity of the stud and secondly the overhanging parts of the plates of the thermally insulating blocks of the thermal insulation barrier of the primary element.

12. The tank as claimed in claim 2, wherein each of thermally insulating blocks of the thermal insulation barrier of the primary element has two connecting strips that are arranged in the vicinity of the edges of a large face of said thermally insulating block.

13. The tank as claimed in claim 1, wherein the connecting strip of the thermally insulating blocks is attached to the recess of same by screwing, riveting, stapling or bonding.

14. The tank as claimed in claim 1, wherein the adjacent metal sheets of the fluidtight barrier are welded in an overlapping manner level with the connecting strips carried respectively by the thermal insulation barrier.

15. The tank as claimed in claim 1, wherein the metal sheets, which form the fluidtight barrier, are rectangular and each have two folds formed along the axes of symmetry of the rectangle formed by the edges of same.

16. The tank as claimed in claim 15, wherein the two folds of the sheet of the fluidtight barrier intersect at the center of the rectangular sheet.

17. The tank as claimed in claim 16, wherein one of the folds of the sheet of the fluidtight barrier is continuous and the other is interrupted in the central portion of same.

18. The tank as claimed in claim 17, wherein the fluidtight barrier includes sheets of a first type that have a continuous fold along the major axis of same and sheets of a second type that have a continuous fold along the minor axis of same, the first and second types of sheet alternating regularly on a tank wall so that one sheet of one of the types is always surrounded by four sheets of the other type arranged along the four sides of same.

19. The tank as claimed in claim 1, wherein at least one of the thermally insulating blocks of the thermal insulation barrier has at least one slot arranged parallel to two opposing sides of the said thermally insulating block and wherein at least one of the sheets of the metal membrane has a supplementary fold parallel to one of the folds of the said sheet which are inserted in the gaps, the supplementary fold being inserted into the slot formed in the said thermally insulating block.

20. The tank as claimed in any one of claims 1 to 4, wherein each of the thermally insulating blocks of the thermal insulation barrier

has two series of orthogonal slots, each of said series having slots arranged parallel to two opposing sides of the thermally insulating block, and wherein the sheets of the metal membrane each have two series of supplementary folds, each of said series of supplementary folds having folds orthogonal to the folds in the other series, parallel to one of the two folds inserted in the gaps, and inserted into the slots of one of the series of slots formed in each of the thermally insulating blocks.

21. The tank as claimed in claim 1, wherein the metal membrane has a second plurality of sheets, each of the sheets in the second plurality having a single fold parallel to two opposing sides of the thermally insulating blocks, said fold being inserted into a gap formed between two thermally insulating blocks.

22. The tank as claimed in claim 1, wherein each of thermally insulating blocks of the thermal insulation barrier has a slot parallel to two opposing sides of the thermally insulating blocks and in which the metal membrane has a second plurality of sheets, each of the sheets in the second plurality having a fold inserted in a slot formed in one of the thermally insulating blocks and a fold inserted in a gap formed between two thermally insulating blocks.

23. The tank as claimed in claim 1, wherein each of the two connecting strips is discontinuous.

24. The tank as claimed in claim 1, wherein each of the two connecting strips is continuous at the intersection with the other connecting strip and is formed of discontinuous juxtaposed segments apart from the intersection.

25. A ship used to transport a liquid product, the ship having a double hull and a tank as claimed in claim 1 placed inside the double hull.

26. Use of a ship as claimed in claim 25 for loading or offloading a liquid product, comprising the step of channeling a liquid product through insulated pipes to or from a onshore or floating storage facility to or from the tank on the ship.

27. A transfer system for a liquid product, the system including a ship as claimed in claim 25, insulated pipes arranged to connect the tank installed in the hull of the ship to an onshore or floating storage facility and a pump for driving a flow of liquid product through the insulated pipes to or from the onshore or floating storage facility to or from the tank on the ship.