

CLAIMS

1. Sealed and insulative tank disposed in a support structure, the tank including a tank wall (3) disposed
5 along the support structure (4), the tank wall including:
a sealing barrier (6, 106),
a thermal insulation barrier (7, 22, 26) disposed between the sealing barrier and the support structure
10 and having a support surface for the sealing barrier, and
a pedestal (10, 110) for equipment immersed in the sealed tank,
the sealing barrier including a layer of corrugated
15 sheet metal (11, 111) having at least one series of parallel corrugations (15; 115), the layer of corrugated sheet metal being interrupted by a window (25, 125) around the pedestal,
the pedestal extending longitudinally through the
20 window in the layer of corrugated sheet metal and having a first end portion bearing against the support structure and a second end portion projecting into the tank to support the equipment at a distance from the sheet metal layer,
25 the sealing barrier including connecting parts (24, 45, 50) disposed in the window around the pedestal to join the pedestal in sealed manner to a marginal portion of the layer of corrugated sheet metal delimiting the window,
30 wherein the window (25, 125) interrupts the directrices of a plurality (20, 120, 158) of the parallel corrugations of said at least one series and the pedestal is centred at a position situated between the directrices (A) of two parallel corrugations (20, 120)
35 of said plurality.

2. Tank according to Claim 1, wherein the pedestal has at least one convex lateral side (13), the directrices of the two corrugations (20, 120) between which the pedestal is centred intersecting the
5 convex lateral side of the pedestal.

3. Tank according to Claim 1 or 2, wherein the window interrupts the directrices (A) of an even number of parallel lines of said at least one series.
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4. Tank according to Claim 3, wherein the window interrupts the directrices of two parallel corrugations of said at least one series.

15 5. Tank according to any of Claims 1 to 4, wherein the pedestal is centred substantially in the middle of the directrices of the two corrugations.

20 6. Tank according to any of Claims 1 to 5, wherein the pedestal has a circular cross section.

7. Tank according to any of Claims 1 to 6, wherein said at least one series of parallel corrugations (15, 115) is equidistantly distributed.
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8. Tank according to any of Claims 1 to 7, wherein the corrugations (15; 115) project on the side of an internal face of the sealing barrier intended to be in contact with a fluid.
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9. Tank according to any of Claims 1 to 8, wherein the connecting parts include a plurality of end parts (50, 150) disposed at a distance from the pedestal in such a manner as to close interrupted ends of the two
35 corrugations (20, 120) between which the pedestal is centred.

10. Tank according to any of Claims 1 to 9, wherein the pedestal includes a hollow envelope (13, 14) of generally tubular shape the longitudinal axis of which is substantially perpendicular to the tank wall and a
5 transverse closure wall (19) closing the envelope in sealed manner to produce the continuity of the sealing barrier at the level of the pedestal.

11. Tank according to any of Claims 1 to 10, wherein
10 the connecting parts include an annular plate (24) joined to a peripheral wall of the pedestal at the level of the layer of corrugated sheet metal (11, 111).

12. Tank according to any of Claims 1 to 11, wherein
15 the connecting parts include an intermediate plate (45, 145) having a first edge welded to the annular plate and a second edge welded to the marginal portion of the corrugated sheet metal layer (11, 161) delimiting the window.

20 13. Tank according to any of Claims 1 to 12, wherein the thermal insulation barrier includes a primary thermal insulation barrier (26) disposed on the side of the sealing barrier (6), referred to as the primary
25 sealing barrier, and a secondary thermal insulation barrier (22) disposed on the side of the support structure, the tank wall including a secondary sealing barrier (23, 32, 36, 38) disposed between the primary and secondary thermal insulation barriers, the
30 secondary sealing barrier being joined in sealed manner to a peripheral wall (13) of the pedestal.

14. Tank according to any of Claims 1 to 13, wherein the connecting parts include:
35 a connecting plate (161) having a corrugation (162) parallel to said at least one series of parallel corrugations (115) and disposed on a line offset

laterally from the pedestal relative to one of the directrices interrupted by the window, and bend parts (170) disposed in such a manner that each joins one end of the corrugation of the connecting plate to an end portion of the corrugation (158) the directrix of which is interrupted by the window so that the corrugation (162) of the connecting plate and the two bend parts extend the corrugation (158) the directrix of which is interrupted in sealed manner across the window along the line offset laterally from the pedestal (110).

15. Tank according to any of Claims 1 to 14, wherein the corrugated sheet metal layer includes a first series of parallel corrugations (15, 115) and a second series of parallel corrugations (16, 116) that intersects the first series of parallel corrugations at crossing points, the window interrupting the directrices of a first plurality of parallel corrugations of the first series and/or the directrices of a second plurality of parallel corrugations of the second series, the pedestal being centred at a position situated between the directrices (A) of two parallel corrugations of the first plurality and/or between the directrices (B) of two parallel corrugations of the second plurality.

16. Tank according to Claim 15, wherein the first series of parallel corrugations is perpendicular to the second series of parallel corrugations.

17. Tank according to Claim 15 or 16, wherein the window (25, 125) is a quadrilateral having two sides parallel to the first series of corrugations and two sides parallel to the second series of corrugations.

18. Tank according to any of Claims 1 to 17, wherein the pedestal (10, 110) is disposed at the base of a mast for discharging the tank.

CLAIMS

1. Sealed and insulative tank disposed in a support structure, the tank including a tank wall disposed along the support structure, the tank wall including:
 - a sealing barrier,
 - a thermal insulation barrier disposed between the sealing barrier and the support structure and having a support surface for the sealing barrier, and
 - a pedestal for equipment immersed in the sealed tank,the sealing barrier including a layer of corrugated sheet metal having at least one series of parallel corrugations, the layer of corrugated sheet metal being interrupted by a window around the pedestal,
 - the pedestal extending longitudinally through the window in the layer of corrugated sheet metal and having a first end portion bearing against the support structure and a second end portion projecting into the tank to support the equipment at a distance from the sheet metal layer,
 - the sealing barrier including connecting parts disposed in the window around the pedestal to join the pedestal in sealed manner to a marginal portion of the layer of corrugated sheet metal delimiting the window,
 - wherein the window interrupts the directrices of a plurality of the parallel corrugations of said at least one series and the pedestal is centred at a position situated between the directrices of two parallel corrugations of said plurality.
2. Tank according to Claim 1, wherein the pedestal has at least one convex lateral side, the directrices of the two corrugations between which the pedestal is centred intersecting the convex lateral side of the pedestal.
3. Tank according to Claim 1 or 2, wherein the window interrupts the directrices of an even number of parallel lines of said at least one series.
4. Tank according to Claim 3, wherein the window interrupts the directrices of two parallel corrugations of said at least one series.
5. Tank according to any one of Claims 1 to 4, wherein the pedestal is centred substantially in the middle of the directrices of the two corrugations.

6. Tank according to any one of Claims 1 to 5, wherein the pedestal has a circular cross section.
7. Tank according to any one of Claims 1 to 6, wherein said at least one series of parallel corrugations is equidistantly distributed.
8. Tank according to any one of Claims 1 to 7, wherein the corrugations project on the side of an internal face of the sealing barrier intended to be in contact with a fluid.
9. Tank according to any one of Claims 1 to 8, wherein the connecting parts include a plurality of end parts disposed at a distance from the pedestal in such as manner as to close interrupted ends of the two corrugations between which the pedestal is centred.
10. Tank according to any one of Claims 1 to 9, wherein the pedestal includes a hollow envelope of generally tubular shape the longitudinal axis of which is substantially perpendicular to the tank wall and a transverse closure wall closing the envelope in sealed manner to produce the continuity of the sealing barrier at the level of the pedestal.
11. Tank according to any one of Claims 1 to 10, wherein the connecting parts include an annular plate joined to a peripheral wall of the pedestal at the level of the layer of corrugated sheet metal.
12. Tank according to claim 11, wherein the connecting parts include an intermediate plate having a first edge welded to the annular plate and a second edge welded to the marginal portion of the corrugated sheet metal layer delimiting the window.
13. Tank according to any one of Claims 1 to 12, wherein the thermal insulation barrier includes a primary thermal insulation barrier disposed on the side of the sealing barrier, referred to as the primary sealing barrier, and a secondary thermal insulation barrier disposed on the side of the support structure, the tank wall including a secondary sealing barrier disposed between the primary and secondary thermal insulation barriers, the secondary sealing barrier being joined in sealed manner to a peripheral wall of the pedestal.

14. Tank according to any one of Claims 1 to 13, wherein the connecting parts include:
a connecting plate having a corrugation parallel to said at least one series of parallel corrugations and disposed on a line offset laterally from the pedestal relative to one of the directrices interrupted by the window, and bend parts disposed in such a manner that each joins one end of the corrugation of the connecting plate to an end portion of the corrugation the directrix of which is interrupted by the window so that the corrugation of the connecting plate and the two bend parts extend the corrugation the directrix of which is interrupted in sealed manner across the window along the line offset laterally from the pedestal.
15. Tank according to any one of Claims 1 to 14, wherein the corrugated sheet metal layer includes a first series of parallel corrugations and a second series of parallel corrugations that intersects the first series of parallel corrugations at crossing points, the window interrupting the directrices of a first plurality of parallel corrugations of the first series and/or the directrices of a second plurality of parallel corrugations of the second series, the pedestal being centred at a position situated between the directrices of two parallel corrugations of the first plurality and/or between the directrices of two parallel corrugations of the second plurality.
16. Tank according to Claim 15, wherein the first series of parallel corrugations is perpendicular to the second series of parallel corrugations.
17. Tank according to Claim 15 or 16, wherein the window is a quadrilateral having two sides parallel to the first series of corrugations and two sides parallel to the second series of corrugations.
18. Tank according to any one of Claims 1 to 17, wherein the pedestal is disposed at the base of a mast for discharging the tank.