

Another purpose of the invention is to supply an improvement like this with the least amount of structural modification possible

An additional purpose of such an improvement is not to substantially increase the cost of such a tank.

5 Another purpose of the invention is to supply an improvement like this which improves, at an acceptable cost, sealed insulating tanks incorporated into a bearing structure.

These purposes, and others that will be revealed subsequently, depend on an improvement of the sealed and thermal insulating tank integrated into a bearing structure consisting of a double wall, said tank being of a type comprising two sealing barriers, primary  
10 and secondary, and at least one thermal insulating barrier made integral with the bearing structure in which the secondary sealing barrier is located and on which the primary sealing barrier stands, which improvement according to this invention, is characterized in that it includes a damping device consisting of a layer of damping material arranged between two walls.

15 According to an initial embodiment of the present disclosure, the thermal insulating barrier consists of a module much in the shape of a rectangular parallelepiped including a first panel, which could be made of plywood for instance, on top of which is a first thermal insulating coat, on top of which there is a sealing barrier itself attached to the second upper secondary insulating panel, on which is arranged a second thermal insulation coat supporting  
20 a second plywood panel, and on which, in a known manner, stands the primary sealing barrier consisting of ferrules or metal plates, which damping device is located underneath the primary sealing barrier and consists of a second plate formed by the two walls between which the layer of damping material is arranged.

According to a second embodiment of the present disclosure, the thermal insulating  
25 barrier consists of a module, more or less a rectangular parallelepiped in shape, comprising a first panel, for instance of plywood, on top of which there is a first thermal insulating coat, on to of which is placed a sealing barrier on which a second thermal insulating coat is arranged, itself supporting a second panel, for instance of plywood, on which stands in a known manner, the primary sealing barrier consisting of ferrules or metal plates while the damping device is  
30 located under the secondary sealing barrier.

According to a third embodiment of the present disclosure, the damping device is arranged between the secondary sealing barrier and the second thermal insulating coat.

According to a fourth embodiment of the present disclosure, the damping device is arranged between the first panel and the first thermal insulating coat.

5 Advantageously, between the first and second wall, and passing through the damping material coat, a depression deflecting device is arranged.

Preferably, the depression deflecting device is inserted into holes arranged respectively in the two walls, to form a Tee while the free ends of the vertical bar of the Tee face one another and an H shaped bar is arranged in the space thus formed.

10 According to one alternative embodiment, the depression deflecting device is inserted into the holes arranged respectively, one in one of the walls and the other in the second thermal insulation coat, to form a Tee, while the free ends of the vertical bar of the Tee face one another and an H shaped bar is arranged in the space thus formed.

In an advantageous manner, the junctions between the first walls are offset with  
15 respect to that of the second.

Preferably, this junction between the first walls is identical to that found between the strips of an English parquet floor.

In an advantageous manner, the second wall has an elasticity modulus at least ten percent less than that of the current materials.

20 Preferably, the two walls will have thickness included between 9 and 21 mm.

According to a preferred embodiment of the present disclosure, the two walls will be of fir plywood or of a composite material.

In accordance with a first aspect, there is provided a sealed and thermal insulating tank integrated into a bearing structure, the bearing structure consisting of a double wall, the tank  
25 comprising: a thermal insulating barrier made integral with the bearing structure, a secondary sealing barrier located within the thermal insulating barrier, and a primary sealing barrier which stands on the thermal insulating barrier, the thermal insulating barrier consists of modules arranged in juxtaposition, wherein a module is more or less a rectangular parallelepiped in shape and comprises a first plywood panel, on top of which there is a first  
30 thermal insulating coat, on top of which there is the secondary sealing barrier, on which is arranged a second thermal insulation coat, itself supporting a second plywood panel, on which stands the primary sealing barrier consisting of ferrules or metal plates, characterized in that it includes a damping device for damping shocks caused by sloshing, the damping device

consisting of a layer of damping material arranged between two walls, wherein the damping material is a material based on woven fibers or a felt, wherein the damping device is located between the secondary sealing barrier and the second thermal insulating coat.

Advantageously, the first panel is attached to the wall of the bearing structure with an  
5 interposed cord of mastic having an elasticity modulus of at most 500MPa at a temperature of -25°C and approximately 150MPa at a temperature of 25°C.

The following description, which is not limitative in any way, should be read with reference to the attached illustrations among which:

- figure 1 is a sectional view, perpendicular to the wall of a bearing structure consisting  
10 of a double wall or of a double transversal bulkhead of a vessel, and in an exploded view, schematically depicting the assembly of the various parts of a tank, according to the prior embodiment, in an area of the tank away from a tank angle;