in the art and it is an aspect of the present invention to provide a heat-insulation system for a liquefied natural gas cargo containment system, which includes a collar stud disposed on a line on which an anchor strip is disposed.

[12] Fig. 3 is a schematic perspective view of a preferable heat-insulation system for an LNG cargo containment system for preventing thermal deformation, and Fig. 4 is a side sectional view of the heat-insulation system of Fig. 3.

[13] Referring to Figs. 3 and 4, a secondary sealing wall 300 according to the present invention includes a first membrane 310 and a second membrane 320, wherein one side 311 and another side 312 of the first membrane 310 are welded to an upper surface of an anchor strip 500, and one side 321 of the second membrane 320 is welded to an upper surface of the first membrane 310 and another side 322 thereof is welded to the upper surface of the anchor strip 500.

[14] The anchor strip 500 is also formed of SUS, which is a thermally deformable material. Since a central portion of the anchor strip 500 is not moved when the anchor strip 500 undergoes thermal deformation, it is most preferable that the sides of the membranes 310, 320 be welded to the central portion of the anchor strip 500 to cope with thermal deformation.

[15] The other side 312 of the first membrane 310 and the other side 322 of the second membrane 320 may be welded to the central portion of the anchor strip 500. However, if the one side 311 of the first membrane 310 is welded to the central portion of the anchor strip 500, a welding line of the collar stud 600 is not flat.

[16] In order for the liquefied natural gas cargo containment system requiring air-tightness and insulation performance to function properly, the membranes must be firmly secured. If the welding line of the collar stud is not flat, the membranes cannot be firmly secured.

[17] Therefore, embodiments of the present invention are aimed at providing a heat-insulation system for a liquefied natural gas cargo containment system, which is capable of flattening the welding line of the collar stud while solving welding problems which can occur when the collar stud is disposed on a line on which the anchor strip is disposed.

【Technical Solution】

[18] In accordance with one aspect of the present invention, a heat-insulation system for a liquefied natural gas cargo containment system, which includes a primary sealing wall, a secondary sealing wall and a secondary heat-insulating layer includes: a collar stud disposed

[27] The heat-insulation system may further include an additional membrane for securing the first to fourth membranes, wherein the beveled portion of each of the first to fourth membranes is placed on the upper surface of the setting plate; the additional membrane is secured so as to cover the beveled portion of each of the first to fourth membranes; the vertical portion of the collar stud passes through the additional membrane and the setting plate; and the horizontal portion of the collar stud is welded to an upper surface of the additional membrane.

[28] The additional membrane may have a stepped portion formed on a lower surface thereof.

【Advantageous Effects】

[29] In the heat-insulation system for an LNG cargo containment system according to embodiments of the present invention, since a securing point at which a secondary sealing wall is connected to a primary sealing wall, that is, a collar stud, is disposed on a line on which an anchor strip is disposed, there are no other securing points on a surface of the secondary sealing wall apart from four sides of the secondary sealing wall. Accordingly, the secondary sealing wall uniformly shrinks upon temperature decrease, whereby wrinkles formed on the secondary sealing wall can function properly.

[30] That is, since the collar stud is placed on the line on which the anchor strip is disposed, the secondary sealing wall can be prepared against thermal deformation and formed of SUS, whereby the liquefied natural gas cargo containment system with high air-tightness and competitive price can be manufactured.

[31] In addition, in the heat-insulation system according to embodiments of the present invention, not only when two membranes are arranged around the collar stud but also when four membranes are arranged, a welding line can be flattened, thereby allowing the membranes to be firmly secured.

【Description of Drawings】

[32] Fig. 1 is a schematic perspective view of a primary sealing wall of a liquefied natural gas cargo containment system.

[33] Fig. 2 is a schematic perspective view of a heat-insulation system for an LNG cargo containment system according to an exemplary embodiment of the present invention.