[CLAIMS]

[Claim 1]

A liquefied gas storage tank comprising a corner block that is disposed on a corner portion in which a first surface and a second surface at different angles meet each other and forms a storage space accommodating liquefied gas,

wherein the corner block includes a lower block provided inside the first and second surfaces and formed of a single board, an upper block bonded and connected to a secondary barrier of the lower block, and an upper connecting block bonded and connected to the secondary barrier on an upper surface of the lower block disposed adjacent thereto to connect the lower blocks,

the upper block includes a first inner fixing unit and a second inner fixing unit respectively provided inside the first surface and the second surface, bonded and connected to the secondary barrier, and each having a structure in which a primary inner plywood, a primary corner insulating material, and a primary outer plywood are stacked, and an inner bent portion installed at a corner spatial portion between the first inner fixing unit and the second inner fixing unit,

both side surfaces of the inner bent portion that are perpendicular to the secondary barrier each have a height reduced from a total height of each of the first and second inner fixing units, and the inner bent portion is in contact with the primary outer plywood and spaced apart from the primary inner plywood, and

the corner spatial portion is formed such that the height in a direction perpendicular to the first surface and the height in a direction perpendicular to the second surface are lower than the total height of each of the first inner fixing unit and the second inner fixing unit.

[Claim 2]

The liquefied gas storage tank of claim 1, wherein the inner bent portion has first protrusions provided on both side surfaces, and

the first protrusion extends outward from the corner spatial portion as much as a predetermined length from the inner bent portion inserted into the corner spatial portion formed by the first and second inner fixing units,

has a cross-sectional shape which is similar to a shape of the inner bent portion and in which a curved portion, which is in contact with the secondary barrier, collinearly extends from a curved portion of the inner bent portion, and

extends to form first steps between both side surfaces perpendicular to the secondary barrier and both side surfaces of the inner bent portion.

[Claim 3]

The liquefied gas storage tank of claim 2, wherein the upper connecting block includes:

a first corner connecting fixing unit and a second corner connecting fixing unit respectively provided inside the first surface and the second surface, bonded and connected to the secondary barrier, and each having a structure in which a first corner connecting plywood, a corner connecting insulating material, and a second corner connecting plywood are stacked; and

a corner connecting bent portion installed in a corner spatial portion between the first corner connecting fixing unit and the second corner connecting fixing unit,

wherein both side surfaces of the corner connecting bent portion that are perpendicular to the secondary barrier each have a height reduced from a total height of each of the first and second corner connecting fixing units,

second protrusions are provided on both side surfaces, and

the second protrusion extends outward from the corner spatial portion as much as a predetermined length from the corner connecting bent portion inserted into the corner spatial portion formed by the first and second corner connecting fixing units,

has a cross-sectional shape which is similar to a shape of the corner connecting bent portion and in which a curved portion, which is in contact with the secondary barrier, collinearly extends from a curved portion of the corner connecting bent portion, and

extends to form second steps between both side surfaces that are perpendicular to the secondary barrier and both side surfaces of the corner connecting bent portion.

[Claim 4]

The liquefied gas storage tank of claim 3, wherein the first and second protrusions are in contact with each other when the upper connecting block is installed between the adjacent upper blocks, and step spaces are formed between the first and second inner fixing units and the first and second corner connecting fixing units,

a stuffing piece is inserted and installed in the step space, and

the stuffing piece has a positive (+) tolerance to seal the step space and is formed in a shape corresponding to a shape of the step space.

[Claim 5]

The liquefied gas storage tank of claim 1, wherein the first and second inner fixing units are symmetrically provided with respect to a direction in which the corner portion is equally divided, and have first side surfaces that are in close contact with both side surfaces of the inner bent portion and perpendicular to the secondary

barrier and second side surfaces that extend from the first side surfaces toward the storage space in the same direction as the direction of the division,

the upper block further includes a corner inner packing material inserted and installed in spaces formed between the first side surfaces in close contact with both side surfaces of the inner bent portion and between the second side surfaces facing each other, and

the corner inner packing material is formed to have a positive (+) tolerance to seal the space in a state of being inserted into the space between the second side surfaces.

[Claim 6]

A liquefied gas storage tank comprising a corner block that is disposed on a corner portion in which a first surface and a second surface at different angles meet each other and forms a storage space accommodating liquefied gas,

wherein the corner block includes a lower block provided inside the first and second surfaces and formed of a single board, an upper block bonded and connected to a secondary barrier of the lower block, and an upper connecting block bonded and connected to the secondary barrier on an upper surface of the lower block disposed adjacent thereto to connect the lower blocks,

the upper connecting block includes a first corner connecting fixing unit and a second corner connecting fixing unit respectively provided inside the first surface and the second surface, bonded and connected to the secondary barrier, and each having a structure in which a first corner connecting plywood, a corner connecting insulating material, and a second corner connecting plywood are stacked, and

a corner connecting bent portion installed in a corner spatial portion between the first corner connecting fixing unit and the second corner connecting fixing unit,

wherein the corner spatial portion is formed such that the height in a direction perpendicular to the first surface and the height in a direction perpendicular to the second surface are lower than the total height of each of the first corner connecting fixing unit and the second corner connecting fixing unit, and

wherein both side surfaces of the corner connecting bent portion that are perpendicular to the secondary barrier each have a height reduced from a total height of each of the first and second corner connecting fixing units.

[Claim 7]

The liquefied gas storage tank of claim 6, wherein the corner connecting bent portion has second protrusions provided on both side surfaces, and

the second protrusion extends outward from the corner spatial portion as much as a predetermined length from the corner connecting bent portion inserted into the corner spatial portion formed by the first and second corner connecting fixing units,

has a cross-sectional shape which is similar to a shape of the corner connecting bent portion and in which a curved portion, which is in contact with the secondary barrier, collinearly extends from a curved portion of the corner connecting bent portion, and

extends to form second steps between both side surfaces that are perpendicular to the secondary barrier and both side surfaces of the corner connecting bent portion.

[Claim 8]

The liquefied gas storage tank of claim 6, wherein the first and second corner connecting fixing units are symmetrically provided with respect to a direction in which the corner portion is equally divided, and have first side surfaces that are in

close contact with both side surfaces of the corner connecting bent portion and perpendicular to the secondary barrier and second side surfaces that extend from the first side surfaces toward the storage space in the same direction as the direction of the division,

the upper connecting block further includes a corner inner packing material inserted and installed in spaces formed between the first side surfaces in close contact with both side surfaces of the corner connecting bent portion and between the second side surfaces facing each other, and

the corner inner packing material is formed to have a positive (+) tolerance to seal the space in a state of being inserted into the space between the second side surfaces.

[Claim 9]

The liquefied gas storage tank of claim 6, wherein the second corner connecting plywood has a second groove formed in a lower surface bonded and connected to the secondary barrier, and

the second groove is formed in a direction horizontal to a corner side of the storage space to check a squeeze-out of an adhesive into a non-adhesive region when the second corner connecting plywood is bonded on the secondary barrier with the adhesive.

[Claim 10]

The liquefied gas storage tank of claim 9, wherein the second groove is formed in a portion adjacent to a rear edge of the second corner connecting plywood to check the squeeze-out of the adhesive into the corner connecting bent portion that is the non-adhesive region.