[CLAIMS]

[Claim 1]

A building panel structure in which a wall panel which covers a main surface is disposed on a~~A~~ building frame structure in a contact manner, wherein

the building frame structure cross-connects a building frame, wherein the building frame comprises~~ing~~:

U-shaped parts disposed on left and right sides so as to sandwich a center space in a cross-sectional view; and

a connection part which connects top portions of the left and right U-shaped parts on a center side and thus constitutes a reverse U-shaped part,

wherein longitudinal sides, on a side away from a center portion, of the U-shaped parts disposed on the left and right sides in a cross-sectional view are shorter than longitudinal sides thereof, on a center side, connected by the connection part,

concrete is filled between the wall panels including each of the U-shaped parts of the building frame of the building frame structure, and the wall panel is configured to be removably attached to the building frame structure, and

each of the U-shaped parts has a bent portion formed in a curved shape in a cross-sectional view and a width, and the bent portion has a radius of curvature in a range of 3% to 20% of the width.

[Claim 2]

The building panel structure ~~frame~~ according to claim 1, wherein a thickness of the building frame ranges from 0.4 mm to 2.0 mm~~a bottom side of each of the U-shaped parts has at least a predetermined straight portion in a cross-sectional view~~.

[Claim 3]

The building panel structure ~~frame~~ according to claim 1, wherein a thickness of

the building frame ranges from 0.6 mm to 1.2 mm~~an upper side of the connection part has at least a predetermined straight portion in a cross-sectional view~~.

~~[Claim 4]~~

~~A building frame structure comprising a cross-connection part which cross-connects the building frames according to any one of claims 1 to 3.~~

~~[Claim 5]~~

~~The building frame structure according to claim 4, wherein the cross-connection part uses the building frame according to claim 2 or 3 configured using a rod-shaped body which penetrates and fixes a straight portion of one building frame and a straight portion of another building frame.~~

~~[Claim 6]~~

~~A building panel structure in which a wall panel which covers a main surface is disposed on the building frame structure according to claim 4 or 5 in a contact manner.~~

~~[Claim 7]~~

~~A building panel structure in which a wall panel which covers a main surface is disposed on the building frame structure according to claim 4 or 5 in a non-contact manner.~~

~~[Claim 8]~~

~~The building panel structure according to claim 6 or 7, wherein a heat insulating material is disposed in a frame space formed by the cross-connection parts of the building frame structure according to claim 4 or 5.~~

~~[Claim 9]~~

~~The building panel structure according to claim 6 or 7, wherein a heat insulating material is disposed between the building frames disposed parallel to and adjacent to each other in the building frame structure according to claim 4 or 5.~~

~~[Claim 10]~~

~~The building panel structure according to claim 7, wherein a heat insulating material is disposed between the building frame of the building frame structure according to claim 7 and the wall panel.~~

~~[Claim 11]~~

~~The building panel structure according to any one of claims 6 to 9, wherein concrete is filled between the wall panels including each of the U-shaped parts of the building frame of the building frame structure.~~

~~[Claim 12]~~

~~The building panel structure according to claim 11, wherein the wall panel is removed.~~

~~[Claim 13]~~

~~A building panel structure which is the building panel structure according to claims 6 to 12, wherein the building frame is a "building frame including:~~

~~U-shaped parts disposed on left and right sides so as to sandwich a center space in a cross-sectional view; and~~

~~a connection part which connects top portions of the left and right U-shaped parts on a center side and thus constitutes a reverse U-shaped part,~~

~~wherein longitudinal sides, on a side away from a center portion, of the U-shaped parts disposed on the left and right sides in a cross-sectional view have the same length as longitudinal sides thereof, on a center side, connected by the connection part" in place of or in addition to a "building frame including:~~

~~U-shaped parts disposed on left and right sides so as to sandwich a center space in a cross-sectional view; and~~

~~a connection part which connects top portions of the left and right U-shaped~~

~~parts on a center side and thus constitutes a reverse U-shaped part,~~

~~wherein longitudinal sides, on a side away from a center portion, of the U-shaped parts disposed on the left and right sides in a cross-sectional view are shorter than longitudinal sides thereof, on a center side, connected by the connection part".~~

~~[Claim 14]~~

~~A building panel structure which is the building panel structure according to claims 6 to 12, wherein as the building frame, a "building frame including:~~

~~U-shaped parts disposed on left and right sides so as to sandwich a center space in a cross-sectional view; and~~

~~a connection part which connects top portions of the left and right U-shaped parts on a center side and thus constitutes a reverse U-shaped part,~~

~~wherein longitudinal sides, on a side away from a center portion, of the U-shaped parts disposed on the left and right sides in a cross-sectional view are shorter than longitudinal sides thereof, on a center side, connected by the connection part" is used as a longitudinal member, and~~

~~C-shaped, U-shaped, H-shaped, and L-shaped frames are used in place of or in addition to a "building frame including:~~

~~U-shaped parts disposed on left and right sides so as to sandwich a center space in a cross-sectional view; and~~

~~a connection part which connects top portions of the left and right U-shaped parts on a center side and thus constitutes a reverse U-shaped part,~~

~~wherein longitudinal sides, on a side away from a center portion, of the U-shaped parts disposed on the left and right sides in a cross-sectional view are shorter than longitudinal sides thereof, on a center side, connected by the connection part" as transverse members.~~

~~[Claim 15]~~

~~A building panel structure which is the building panel structure according to claims 6 to 12, wherein as the building frame, C-shaped, U-shaped, H-shaped, and L-shaped frames are used in place of or in addition to a "building frame including:~~

~~U-shaped parts disposed on left and right sides so as to sandwich a center space in a cross-sectional view; and~~

~~a connection part which connects top portions of the left and right U-shaped parts on a center side and thus constitutes a reverse U-shaped part,~~

~~wherein longitudinal sides, on a side away from a center portion, of the U-shaped parts disposed on the left and right sides in a cross-sectional view are shorter than longitudinal sides thereof, on a center side, connected by the connection part".~~

~~[Claim 16]~~

~~A method for constructing a building, the method comprising:~~

~~a building frame structure preparation process of preparing the building frame structure according to claim 4 or 5;~~

~~a building frame structure transportation process of transporting the prepared building frame structure to a construction site; and~~

~~a building frame structure assembly construction process of assembling the transported building frame structures into a building frame structure assembly.~~

~~[Claim 17]~~

~~The method for constructing a building according to claim 16, further comprising a wall panel installation process of installing a wall panel to cover a main surface of the assembled building frame structure assembly.~~

~~[Claim 18]~~

~~The method for constructing a building according to claim 17, further~~

~~comprising a filling process of filling a space sandwiched by the wall panels or/and a heat insulating material of the building frame structure assembly with concrete.~~

~~[Claim 19]~~

~~A method for constructing a building, the method comprising:~~

~~a building panel structure preparation process of preparing the building panel structure according to any one of claims 6 to 15;~~

~~a building panel structure transportation process of transporting the prepared building panel structure to a construction site; and~~

~~a building panel structure assembly construction process of assembling the transported building panel structures into a building panel structure assembly.~~

~~[Claim 20]~~

~~The method for constructing a building according to claim 19, further comprising a filling process of filling a space sandwiched by the wall panels or/and a heat insulating material of the building panel structure assembly with concrete.~~