CLAIMS

[Claim 1]

A method of manufacturing a vacuum thermal insulator, the method comprising:

enclosing a core formed of a fiber assembly with an enclosure;

compressing integrally the core and the enclosure by an external force into a compressed state to have a thickness of 1/10 or less of the thickness before compressing, the compressing being performed before depressurizing an inside of the enclosure;

forming a weld sealing portion along at least two sides facing each other of a periphery of the enclosure in the compressed state; and

depressurizing and sealing the inside of the enclosure after the weld sealing portion is formed.

[Claim 2]

The method of claim 1, wherein the weld sealing portion is formed such that a distance from the core is 5 mm or less.

[Claim 3]

A thermal insulating box comprising a vacuum thermal insulator manufactured by the method of claim 1 or 2.

[Claim 4]

A vacuum thermal insulator comprising a core composed of a fiber assembly, and an enclosure enclosing the core in an inside thereof, the inside being depressurized and sealed, the vacuum thermal insulator having, as a whole, a heat-insulator thickness of 10 mm or more,

wherein the enclosure has a weld sealing portion at a periphery thereof,

a distance between the weld sealing portion and the core is 5 mm or less on at least two sides facing each other of the periphery of the enclosure,

the weld sealing portion is fixed along an outer contour of the core, and

a thickness of the core under an atmospheric pressure when the core is removed from the inside of the enclosure is 10 times or more of the heat-insulator thickness.

[Claim 5]

The vacuum thermal insulator of claim 4, wherein the fiber assembly is glass wool.

[Claim 6]

The vacuum thermal insulator of claim 4 or 5, wherein the core does not contain a binding agent for binding the fiber assembly.

[Claim 7]

The vacuum thermal insulator of any one of claims 4 to 6, wherein a width of the weld sealing portion is 50 mm or more.

[Claim 8]

A thermal insulating box comprising the vacuum thermal insulator of any one of claims 4 to 7.

CLAIMS

[Claim 1]

A method of manufacturing a vacuum thermal insulator, the method comprising:

enclosing a core formed of a fiber assembly with an enclosure;

compressing integrally the core and the enclosure by an external force, the compressing being performed before depressurizing an inside of the enclosure;

forming a weld sealing portion along at least two sides facing each other of a periphery of the enclosure in a compressed state; and

depressurizing and sealing the inside of the enclosure after the weld sealing portion is formed.

[Claim 2]

The method of claim 1, wherein in the compressed state, the core has a thickness of 1/10 or less of the thickness before compressing.

[Claim 3]

The method of claim 1 or 2, wherein the weld sealing portion is formed such that a distance from the core is 5 mm or less.

[Claim 4]

The method of any one of claims 1 to 3, wherein the enclosure has a gas barrier property.

[Claim 5]

A thermal insulating box comprising a vacuum thermal insulator manufactured by the method of any one of claims 1 to 4.

[Claim 6]

A vacuum thermal insulator comprising a core formed of a fiber assembly, and an enclosure enclosing the core in an inside thereof, the inside being depressurized and sealed,

wherein the enclosure has a weld sealing portion at a periphery thereof,

the weld sealing portion is fixed along an outer contour of the core, and

a thickness of the core under an atmospheric pressure when the core is removed from the inside of the enclosure is 10 times or more of a thieckness of the vacuum thermal insulator before the core is removed therefrom.

[Claim 7]

The vacuum thermal insulator of claim 6, wherein the enclosure has a gas barrier property.

[Claim 8]

The vacuum thermal insulator of claim 6 or 7, wherein a distance between the weld sealing portion and the core is 5 mm or less on at least two sides facing each other of the periphery of the enclosure.

[Claim 9]

The vacuum thermal insulator of any one of claims 6 to 8, wherein the fiber assembly is glass wool.

[Claim 10]

The vacuum thermal insulator of any one of claims 6 to 9, wherein the core does not contain a binding agent for binding the fiber assembly.

[Claim 11]

The vacuum thermal insulator of any one of claims 6 to 10, wherein a width of the weld sealing portion is 50 mm or more.

[Claim 12]

A thermal insulating box comprising the vacuum thermal insulator of any one of claims 6 to 11.