

[CLAIMS]

[Claim 1]

A manufacturing method of a mounting structure, the method comprising:

- a step of preparing a mounting member including a first circuit member and a plurality of second circuit members placed on the first circuit member;
- a disposing step of disposing a thermosetting sheet and a thermoplastic sheet on the mounting member, with the thermosetting sheet interposed between the thermoplastic sheet and the first circuit member;
- a first sealing step of pressing a stack of the thermosetting sheet and the thermoplastic sheet against the first circuit member, and heating the stack, to seal the second circuit members and to cure the thermosetting sheet into a first cured layer;
- a removal step of removing the thermoplastic sheet from the first cured layer; and
- a coating film formation step of forming a coating film on the first cured layer, after the removal step, wherein
 - at least one of the plurality of the second circuit members is a hollow member having a space from the first circuit member, and
 - in the first sealing step, the plurality of the second circuit members are sealed so as to maintain the space.

[Claim 2]

The manufacturing method of claim 1, wherein

- the coating film includes a functional layer having at least one function selected from the group consisting of electrical conductivity, electromagnetic wave shielding property, and electromagnetic wave absorbing property, and
- the coating film formation step further includes a step of forming the functional layer on

the first cured layer.

[Claim 3]

The manufacturing method of claim 2, wherein the functional layer contains an electrically conductive material and is formed by a vapor phase method and/or a plating method.

[Claim 4]

The manufacturing method of claim 2 or 3, wherein
the coating film further includes a second cured layer, and
the coating film formation step further includes a second sealing step of forming the second cured layer by curing a curable material on the functional layer.

[Claim 5]

The manufacturing method of claim 1, wherein
the coating film includes a second cured layer, and
the coating film formation step further includes a second sealing step of forming the second cured layer by filling a curable material onto the first cured layer and curing the curable material.

[Claim 6]

The manufacturing method of any one of claims 1 to 5, further comprising a step of preparing a sheet comprising the thermosetting sheet and the thermoplastic sheet integrated with each other, prior to the disposing step, wherein
in the disposing step, the sheet is disposed on the mounting member.

[Claim 7]

The manufacturing method of any one of claims 1 to 6, wherein in the first sealing step, the stack is pressed under heating against the first circuit member.

[Claim 8]

The manufacturing method of any one of claims 1 to 7, wherein a thermoplastic material constituting the thermoplastic sheet has a 50% modulus of 3 MPa or more and 8 MPa or less, as measured in a form of 100- μ m-thick sheet formed of the thermoplastic material.

[Claim 9]

The manufacturing method of any one of claims 1 to 8, wherein a thermoplastic material constituting the thermoplastic sheet has an elongation at break of 200% or more and 1000% or less, as measured in a form of 100- μ m-thick sheet formed of the thermoplastic material.

[Claim 10]

The manufacturing method of any one of claims 1 to 9, wherein a thermoplastic material constituting the thermoplastic sheet has a breaking strength of 10 MPa or more and 30 MPa or less, as measured in a form of 100- μ m-thick sheet formed of the thermoplastic material.

[Claim 11]

The manufacturing method of any one of claims 1 to 10, wherein a thermoplastic material constituting the thermoplastic sheet has a melting point or glass transition temperature t_m of 50 °C or more and 130 °C or less, and of being lower than a temperature t when the second circuit members are sealed.

[Claim 12]

The manufacturing method of any one of claims 1 to 11, wherein a thermosetting

material constituting the thermosetting sheet exhibits a loss tangent $\tan\delta$ 0.1 or more and 0.8 or less, and a storage shear modulus of 1×10^4 Pa or more and 1×10^7 Pa or less, at the temperature t when the second circuit members are sealed.

[Claim 13]

The manufacturing method of any one of claims 1 to 12, wherein at least one separation distance between the second circuit members adjacent to each other is 150 μm or less.

[Claim 14]

The manufacturing method of any one of claims 1 to 13, wherein
the second circuit members include a reference member, and a first adjacent member and a second adjacent member each adjacent to the reference member, and
a separation distance $D1$ between the reference member and the first adjacent member is different from a separation distance $D2$ between the reference member and the second adjacent member.

[Claim 15]

The manufacturing method of any one of claims 1 to 14, wherein
the second circuit members include a reference member, and a first adjacent member and a second adjacent member each adjacent to the reference member, and
a height $\Delta H1$ from the reference member of the first adjacent member is different from a height $\Delta H2$ from the reference member of the second adjacent member.

[Claim 16]

The manufacturing method of any one of claims 1 to 15, wherein in the first sealing step, the second circuit members are sealed with the stack, and the thermoplastic sheet is deformed to

conform to contours of the second circuit members.

[Claim 17]

The manufacturing method of any one of claims 1 to 16, wherein the first cured layer has projections and recesses corresponding to the contours of the second circuit members.