Claims

1. A method of making a base board on high-speed rail equipment cabinet with a composite material, the characteristics lies in:

the composite material comprises:

aramid honeycomb, PET foam, 3K carbon fiber flame retardant prepreg, unidirectional carbon fiber flame retardant prepreg, glass fiber flame retardant prepreg, aramid flame retardant prepreg, 300gsm of single component blue epoxy adhesive; and

the method of making the base board on high-speed rail equipment cabinet by the composite material comprises the following steps:

(1) making a main board of the base board;

(2) making a handle of the base board;

(3) making a slider block of base board; wherein the slider block includes two parts;

(4) assembling the main board, the handle and the slider block together as the base board;

wherein during assembling, the handle is stuck in one side of the main board, and the two parts of the slider block are stuck respectively into two sides of the main board which face with each other among the rest three sides of the main board; and

wherein the main board is made of the composite material in a lamination design.

2. The method according to claim 1, wherein the main board is designed in lamination sequence from outside to inside:

1 layer of 198~200gsm 3K carbon fiber flame retardant prepreg;

5~8 layers of 300 ~315gsm glass fiber flame retardant prepreg;

2 layers of 235~240gsm aramid flame retardant prepreg;

2 layers of 100~150gsm unidirectional carbon fiber flame retardant prepreg;

1 layer of 300gsm single component blue epoxy adhesive;

2 layers of 100~150gsm unidirectional carbon fiber flame retardant prepreg;

1 piece of aramid honeycomb with thickness of 16.5mm;

1 layer 300gsm of single component blue epoxy adhesive;

2 layers of 100~150gsm unidirectional carbon fiber flame retardant prepreg;

5~8 layers of 300 ~315gsm glass fiber flame retardant prepreg;

1 layer of 198~200gsm 3K carbon fiber flame retardant prepreg;

wherein according to the lamination sequence, all the layers are pasted in a mold cavity closely and taken shape on a hot press machine with temperature setting in 130-150°C, molding time of 3600-3800s, pressure setting of 4mpa-6mpa.

3. The method according to claim 1, wherein the main board is designed in lamination sequence from outside to inside:

1 layer of 200gsm 3K carbon fiber flame retardant prepreg;

7 layers of 300 gsm glass fiber flame retardant prepreg;

2 layers of 235 gsm aramid flame retardant prepreg;

2 layers of 150gsm unidirectional carbon fiber flame retardant prepreg;

1 layer of 300gsm single component blue epoxy adhesive;

2 layers of 150gsm unidirectional carbon fiber flame retardant prepreg;

1 piece of aramid honeycomb with thickness of 16.5mm;

1 layer 300gsm of single component blue epoxy adhesive;

2 layers of 100~150gsm unidirectional carbon fiber flame retardant prepreg;

4 layers of 300 gsm glass fiber flame retardant prepreg;

1 layer of 200gsm 3K carbon fiber flame retardant prepreg;

wherein according to the lamination sequence, all the layers are pasted in a mold cavity closely and taken shape on a hot press machine with temperature setting in 140°C, molding time of 3600s, pressure setting of 4mpa.

4. The method according to claim 1, wherein the main board is designed in lamination sequence from outside to inside:

1 layer of 200gsm 3K carbon fiber flame retardant prepreg;

6 layers of 300 gsm glass fiber flame retardant prepreg;

3 layers of 235 gsm aramid flame retardant prepreg;

2 layers of 150gsm unidirectional carbon fiber flame retardant prepreg;

1 layer of 300gsm single component blue epoxy adhesive;

2 layers of 150gsm unidirectional carbon fiber flame retardant prepreg;

1 piece of aramid honeycomb with thickness of 16.5mm;

1 layer 300gsm of single component blue epoxy adhesive;

2 layers of 100~150gsm unidirectional carbon fiber flame retardant prepreg;

4 layers of 300 gsm glass fiber flame retardant prepreg;

1 layer of 200gsm 3K carbon fiber flame retardant prepreg;

wherein according to the lamination sequence, all the layers are pasted in a mold cavity closely and taken shape on a hot press machine with temperature setting in 150°C, molding time of 3600s, pressure setting of 4mpa.

5. The method according to claim 1, wherein the handle is designed in 20 ~ 25 layers of 150gsm unidirectional carbon fiber flame retardant prepreg, and all the layers of prepreg are pasted in a mold cavity, using vacuum bagging molding technique with temperature of 130-150℃ and molding time of 4500~4800s.

6. The method according to claim 1, wherein the slider block is designed in 20~25 layers of 150gsm unidirectional carbon fiber flame retardant prepreg to be wrapped around the PET foam, and then to take shape on a hot press machine with temperature setting in 130-150°C, molding time of 3600-3800s, pressure setting of 2mpa-3mpa.

7. The method according to claim 1, wherein the density of the aramid fiber honeycomb is required to be 48~50kg/m^3.

8. The method according to claim 6, wherein the density of the PET foam is required to be 59~61 kg/m^3.