CLAIMS

WHAT IS CLAIMED IS:

1. A connection structure for a composite backrest, comprising two frames; a composite backrest body; and metal bushings, wherein the metal bushings comprise a group of left metal bushings and a group of right metal bushings, the two frames are respectively fixed to a left side and a right side of the composite backrest body by the group of left metal bushings and the group of right metal bushings, and a lower half of the composite backrest body is thinner than an upper half of the composite backrest body, and the lower half of the composite backrest body is formed as a U-shaped groove.

2. The connection structure for the composite backrest according to claim 1, wherein each group of metal bushings comprises a plurality of groups of connection bushings.

3. The connection structure for the composite backrest according to claim 2, wherein each group of connection bushings comprise an externally-threaded bushing and an internally-threaded bushing matched with the externally-threaded bushing; a threaded hole is formed in each of the two frames and the composite backrest body; the externally-threaded bushings and the internally-threaded bushings are engaged to fix the two frames to the composite backrest body; and the externally-threaded bushings and the internally-threaded bushings on the same side of the composite backrest body are alternately arranged.

4. The connection structure for the composite backrest according to claim 1, wherein the frames are hollow and rectangular.

5. A method for making a connection structure for a composite backrest comprising two

frames, a composite backrest body, and metal bushings, wherein the metal bushings comprise a group of left metal bushings and a group of right metal bushings, and the two frames are respectively fixed to a left side and a right side of the composite backrest body by the group of left metal bushings and the group of right metal bushings, a lower half of the composite backrest body is thinner than an upper half of the composite backrest body, and the lower half of the composite backrest body is formed as a U-shaped groove,

the method comprising:

step 1: punching a hole in each of the composite backrest body and the two frames, and placing the two frames into the composite backrest body;

step 2: processing the metal bushing into the externally-threaded bushing and the internally-threaded bushing matched with the externally-threaded bushing;

step 3: sandblasting or sanding an external surface of the metal bushing processed in step 2;

step 4: coating a configured structural adhesive on the metal bushing with the surface processed in step 3, and oppositely bonding the metal bushing from two sides of the hole in the frame of the backrest;

step 5: fixing the bonded metal bushing by a tool; and

step 6: placing the fixed metal bushing, the composite backrest and the two frames into a drying oven for heating, and removing the tool after the structural adhesive is completely cured.

6. The method for making the connection structure for the composite backrest according to claim 5, wherein the composite backrest body in step 1 is made from a carbon fiber reinforced polymer, an aramid fiber reinforced polymer, or a glass fiber reinforced polymer; and the metal bushing in step 2 is made from aluminum, steel, or copper.

7. The method for making the connection structure for the composite backrest according to claim 5, wherein the step of processing the external surface of the metal bushing in step 3 specifically comprises the following steps:

cleaning the external surface of the metal bushing by using a cleaning agent, sandblasting or sanding the surface according to different materials for roughening; cleaning the roughened surface by using the cleaning agent again; and according to different structural adhesives, coating the cleaned surface of the metal bushing with a primer to improve a bonding effect when necessary.

8. The method for making the connection structure for the composite backrest according to claim 5, wherein the structural adhesive in step 4 comprises an epoxy structural adhesive, a polyurethane structural adhesive, or an acrylic structural adhesive.

9. The method for making the connection structure for the composite backrest according to claim 5, wherein a heating process in step 6 is performed at 40°C-100°C for 10-240 minutes.