

IMPROVEMENTS IN CLADDING

The invention relates to cladding of structures, and more particularly but not exclusively to the cladding of a metal structural core of a framework with a decorative cladding of, for example, aluminium.

In certain applications, particularly in fire resistant structures, but also in other applications, a frame for a door, window or other opening needs to be of a material of substantial structural strength, and ability to withstand heat and flames. Steel is often used as a material for a core of such a frame but such steel cores are often unattractive and are therefore clad with a material such as aluminium. Plastics also could be used. Hitherto, mounting of the cladding on a structural core has been achieved in various ways, usually involving quite complex support connections between the core and the cladding. This involves time consumption in assembly, and attendant risks of poor assembly work.

According to the invention there is provided a clad frame for a door, window or like opening, which frame has a core of structural material to provide strength properties for the frame, the core having a plurality of planar external surfaces, the frame being glazed with glass or other panelling material and having means for sealing the panelling material in place, the frame additionally having double-sided adhesive tape attached on one side to at least some of the planar external surfaces and cladding material attached to the other side of the adhesive tape. The frame is preferably clad on each side thereof with respect to the glass or other panelling material.

The cladding material may be of aluminium but may be of plastics material.

The invention further provides a method of assembling a clad frame according to the invention, which method comprises the steps of applying one side of

double sided adhesive tape to said at least some of the planar external surfaces of the core, and securing cladding material to the other side of the tape.

The tape is preferably provided with a protective film on one side to allow the tape to be secured to the core off site, the method preferably comprising a further step of removing the film before applying the cladding material.

Alternatively, the double sided adhesive tape may be secured first to the cladding material.

By way of example, two embodiments of a frame according to the invention, and methods of assembly, will now be described with reference to the accompanying drawings, in which:-

Figure 1 is a sectional view illustrating a glazed, clad frame with glazing on both sides of the frame;

Figure 2 is a sectional view illustrating a second embodiment of a glazed, clad frame, with glazing on one side and a structure on the other; and

Figure 3 is an enlarged view showing adhesive tape secured to a surface.

As shown in Figure 1 a frame generally indicated at 10 has a core 11 of steel to provide structural strength and resistance against fire or heat. The core 11 is generally of T-section having a box section 12 and flanges 13,14 extending either side of the box section. It will be appreciated that material other than steel, or indeed other than metal, could be used.

The core 11 is provided with double sided adhesive tape 25 (see Figure 3) attached on one adhesive side 27 to external planar surfaces 15,16 of the box section 12 and flanges 13,14 respectively. This tape can be applied to the core on site, or preferably at factory fabrication stage. A protective film 26 is applied to adhesive layer 28 of the tape facing outwardly from the core.

On site, the core 11 is secured in place to form part of a frame of a door, window or other opening, and infill panels 17,18 of glass or other panelling material are sealed in place using gaskets 19 and glazing beads 20 which are located over projections 21 extending from the box section 12. The gaskets 19 are preferably fireproof seals where necessary for fire resistant applications. Cladding strips 22,23 are then offered to the core 11, once the protective film 26 has been removed from the adhesive tape 25. The adhesive tape holds the cladding 22,23 to the core 11 simply and effectively, with a further advantage that bi-metallic corrosion is prevented by preventing electrical contact between the core 11 and the cladding 22,23. The cladding 22,23 is aluminium in the embodiments shown, but other materials such as plastics could be used. It is also possible to apply the double sided adhesive tape to the cladding 22, 23 rather than the core 11.

Figure 2 shows an alternative embodiment where a steel core 30 of box section and with a glazing flange 31 is secured to a structure, such as a wall 32. Glazing of an infill panel 18 is achieved as before using gaskets 19, and a bead 20 located on projections 21. As before, double sided adhesive tape is attached to main external planar surfaces of the core 30 and after glazing, the protective film 26 is removed from the outwardly facing adhesive layer and cladding 33,34 secured to the core 30.

The advantages of these embodiments are that a convenient cladding system is provided for the core of a framework, the system needing no complicated assembly. A further advantage is that bi-metallic corrosion is prevented.



CLAIMS

1. A clad frame for a door, window or like opening, which frame has a core of structural material to provide strength properties for the frame, the core having a plurality of
5 planar external surfaces, the frame being glazed with glass or other panelling material and having means for sealing the panelling material in place, the frame additionally having double-sided adhesive tape attached on one side to at least some of the planar external surfaces and cladding material
10 attached to the other side of the adhesive tape.
2. A clad frame according to claim 1 wherein the frame is clad on each side thereof with respect to the glass or other panelling material.
3. A clad frame as claimed in claim 1 or 2 wherein the
15 cladding material is of aluminium.
4. A clad frame as claimed in claim 1 or 2 wherein the cladding material is of plastics material.
5. A clad frame as claimed in any preceding claim, wherein the glazed frame is a fire-resistant structure, the
20 glass or other panelling material being sealed in place with fireproof seals.
6. A clad frame as claimed in any preceding claim wherein the core is of steel.
7. A method of assembling a clad frame as claimed in any
25 preceding claim, which method comprises the steps of applying one side of double sided adhesive tape to said at least some of the planar external surfaces of the core, and securing cladding material to the other side of the tape.
8. A method as claimed in claim 7 wherein the tape is
30 provided with a protective film on one side to allow the tape to be secured to the core off site, the method



comprising a further step of removing the film before applying the cladding material.

9. A method as claimed in claim 7 wherein the double sided adhesive tape is secured first to the cladding
- 5 material, the tape being provided with a protective film to protect the adhesive surface away from the cladding until the cladding is to be secured to the core.
10. A clad frame substantially as hereinbefore described with reference to and as shown in Figure 1 or Figure 2 of
- 10 the accompanying drawings.
11. A method of cladding a frame substantially as hereinbefore described with reference to the foregoing examples.
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