

EP3182520(UK) Amended Claims – Tracked

1. An electrical connection (1; 1') for electrically connecting a flat connector (2; 2'; 2''), comprising a flat strip of electrically conductive material (20; 20'; 20'') encased in a thin layer of non-conductive material, and an electrical cable (3; 3'; 3''), the electrical connection (1; 1') comprising a flat connector (2; 2'; 2'') with an insulated portion (21; 21'') and an exposed electrically conductive portion (20e; 20e''), an electrical cable (3; 3'; 3''), a first seal (6a; 6a''), a second seal (6b) and an enclosure (4), where the flat connector (2; 2'; 2'') and the electrical cable (3; 3'; 3'') are secured together in order to provide electrical contact between one another at the exposed electrically conductive portion (20e; 20e'') of the flat connector (2; 2'; 2''), the first seal (6a; 6a'') being outboard of the exposed electrically conductive portion (20e; 20e'') of the flat connector (2; 2'; 2'') whereby the enclosure (4) encases the first seal (6a; 6a''), the second seal (6b) and the electrical contact and characterised in that the first seal (6a; 6a'') is adjacent a distal edge (20a) of the exposed electrically conductive element (20e; 20e'') of the flat connector (2; 2'; 2'') and wherein the second seal (6b) contacts the insulated portion (21; 21'') of the flat connector (2; 2'; 2'') and the electrically conductive portion (20e; 20e'') of the flat connector (2; 2'; 2''), whereby the electrical contact is free of the second seal (6b).

2. The electrical connection (1; 1') according to Claim 1, wherein the first seal (6a; 6a'') is located around the electrical cable (3; 3'; 3'').

3. The electrical connection (1; 1') according to Claim 1 or 2, wherein the enclosure (4) encases the electrically conductive portion (20e; 20e'') of the flat connector (2; 2'; 2'').

4. The electrical connection (1; 1') according to any preceding Claim, wherein the first seal (6a) and/or the second seal (6b) comprises an adhesive material (61, 63).

5. The electrical connection (1; 1') according to Claim 4, wherein the adhesive material (63) provides an interface between the first seal (6a) and/or the second seal (6b) and the enclosure (4).

6. The electrical connection (1; 1') according to any preceding Claim, wherein the flat strip of electrically conductive material (20; 20'; 20'') has a cross-sectional area of less than 3 mm^2 , preferably less than 2.75 , less than 2.5 , less than 2.25 , less than 2 , for example less than 1.95 , less than 1.9 , less than 1.85 or less than 1.8 mm^2 , and/or wherein the flat strip of electrically conductive material (20; 20'; 20'') has a thickness of from 80 to $120 \times 10^{-6} \text{ m}$ (i.e. from 80 to $120 \mu\text{m}$), say from 85 to 118 , 90 to 115 , 95 to $113 \mu\text{m}$ and/or wherein the flat strip of electrically conductive material (20; 20'; 20'') has a width of from 10 to 30 mm , say from 12 to 28 mm , for example from 14 to 25 mm .

7. The electrical connection (1; 1') according to any preceding Claim, wherein the exposed electrically conductive portion (20e'') has two major surfaces, and one of the surfaces is covered with an electrically insulating material.

8. The electrical connection (1; 1') according to any preceding claim, wherein the enclosure (4) comprises a glass reinforced polymer.

91. A method of forming an electrical connection (1; 1') between a flat connector (2; 2'; 2''), comprising a flat strip of ~~electrically conductive material~~copper (20; 20'; 20'') encased in a thin layer of non-conductive material, and an electric cable (3; 3'; 3''), the method comprising the steps of:

a) providing a flat connector with an insulated portion (21; 21'') and an electrically conductive portion (20e; 20e''), electrical cable (3; 3'; 3'') and a first seal (6a; 6a'');

b) securing the flat connector and the electrical cable together using a solder comprising lead (5) in order to provide electrical contact between each other at the electrically conductive portion of the flat connector;

c) fitting a first seal outboard of the electrically conductive portion of the flat connector and around the electrical cable such that the electrical contact is free of the first seal;

d) providing a second seal (6b); and

e) encasing the first seal, the second seal and electrical contact with an enclosure (4) formed from thermoplastic

Characterised in that the first seal is located adjacent a distal edge of the electrically conductive portion of the flat connector and the second seal (6b) contacts the insulated portion (21; 21'') of the flat connector (2; 2'; 2'') and the electrically conductive portion (20e; 20e'') of the flat connector (2; 2'; 2''), whereby the electrical contact is free of the second seal.

402. Method according to Claim 91, wherein step c) occurs prior to step b) and wherein step b) further comprises use of the first seal as a guide for positioning of the electrical cable relative to the flat connector.

~~11. A windscreen assembly comprising an electrical connection according to any of Claims 1 to 8.~~