Claims

1. An electrical apparatus, wherein the electrical apparatus is an integrated circuit, comprising:

at least first and second components, and

an interface between the first and second components,

wherein the apparatus further comprises:

a coating of ta-C at the interface to seal the interface against ingress and/or egress of fluids.

2. An electrical apparatus according to claim 1, wherein the coating of ta-C has an sp^3 content of 50% or higher.

3. An electrical apparatus according to claim 1, wherein the coating of ta-C has an sp^3 content of 60% or higher.

4. An electrical apparatus according to any preceding claim, wherein the electrical apparatus is an encapsulated electrical apparatus having a sealed interior and wherein the coating of ta-C at the interface seals the interface against ingress of water and/or oxygen into the sealed interior.

5. An electrical apparatus according to any preceding claim, wherein the electrical apparatus is sealed by encapsulation, and comprises a coating of ta-C on the encapsulation.

6. An electrical apparatus according to claim 4 or 5, wherein the encapsulation comprises thermosetting polymer or resin.

7. An electrical apparatus according to any preceding claim, wherein the coating of ta-C has a density of 2.5g/cm^3 or greater and a thickness of 1-50nm.

8. An electrical apparatus according to any preceding claim, wherein the coating of ta-C is substantially silicon-free and oxygen-free.

9. An electrical apparatus according to any preceding claim, comprising an integrated circuit having a coating of ta-C sealed with encapsulation and wherein the encapsulation comprises a coating of ta-C.

10. A method of making an electrical apparatus according to any preceding claim, the method comprising:

(i) providing a first and second component,

(ii) connecting the first and second components to each other, and optionally attaching the first and second components together, so there is an interface between the components, and

(iii) applying a layer comprising ta-C to the interface between the first and second components.

11. A method according to claim 10, comprising sealing the electrical apparatus within encapsulation.

12. A method according to claim 11, comprising applying a coating of ta-C to the encapsulation.

13. A method according to any of claims 10 to 12, wherein the coating of ta-C has an sp^3 content of 50% or higher.

14. A method according to any of claims 10 to 13, wherein the coating of ta-C has a density of 2.5g/cm^3 or greater and a thickness of 1-50nm.