CLAIMS

1. A composition of interconnect materials for solid oxide fuel cell ~~across temperatures, characterized in that~~, the materials include Iron Oxide - Copper Oxide and Ytterbium Oxide with addition of Chromium Oxide up to 10 % by weight of chromium oxide.

~~2. The materials as claimed in claim 1, wherein Iron Oxide - Copper Oxide and Ytterbium Oxide with addition of Chromium Oxide up to 10 % by weight of chromium oxide~~.

~~3.~~2. The materials as claimed in claim 1, wherein sintering process of the interconnect materials is below 1000℃ in ambient environment.

~~4.~~3. The materials as claimed in claim 1, wherein the interconnect materials are electrically conducting.

~~5.~~4. The materials as claimed in claim 1, wherein the interconnect materials are magnetic.

~~6.~~5. The materials as claimed in claim ~~4~~3, wherein the interconnect materials produce a ~~distinct~~ rainbow coloration in proving electrical conductivity.

~~7.~~6. The materials as claimed in claim ~~6~~5, wherein the ~~distinct~~ rainbow coloration arises from the addition of chromium and after subjected to a reducing flame.

~~8.~~7. The materials as claimed in claim 1, wherein the materials are used in low and intermediate temperature solid oxide fuel cells ranging from 350℃ to 750℃ in oxidizing as well as in reducing environment.

~~9.~~8. The materials as claimed in claim 1, wherein surface properties of the materials are also metallic, magnetic and oxidation resistant.

~~10.~~9. The materials as claimed in claim 1, wherein addition of 10% by weight of the chromium oxide ~~to the materials~~ enables green ceramic component to be sintered up to 1280℃ in air without melting or adhering to alumina support, and also without any distortion.

~~11.~~10. The materials as claimed in claim 1, wherein addition of chromium oxide of up to 10 % by weight increases the refractoriness of the materials.

~~12.~~11. The materials as claimed in claim 1, wherein the materials are of a low energy gap ranging from 0.1 eV at 600^{o}C to 0.6 eV at 100℃.

~~13.~~12. The materials as claimed in claim 1, wherein the materials are found to be magnetic in a butane flame at 600℃ causing the materials to be attracted to cathode and anode that are also magnetic for enhanced contacts and performance of solid oxide fuel cells.

~~14.~~13. The materials as claimed in claim 1, wherein the materials are used as sealing materials for solid oxide fuel cells to prevent the fuel from mixing with the oxidant.

~~15.~~14. The materials as claimed in claim 1, wherein the materials in particulate form can be used in the form of a paste as a low resistance contact materials for devices operating at elevated temperature up to 750^{o}C in oxidising, inert or reducing atmospheres.