CLAIMS

1. A method of forming a coating on a copper wire or strip for electric insulation, the coating comprising:

applying the coating onto the copper wire or strip, wherein the coating consists of a layer of Al_2O_3 sandwiched between a first silica film and a second silica film, each having a thickness of 1-2µm.

2. The method of claim 1, wherein applying the coating comprises forming the first silica film onto the copper wire or strip, depositing the layer of Al_2O_3 onto the first silica film and forming the second silica film onto the layer of Al_2O_3.

3. The method of claim 2, wherein the first silica film is cured before applying the layer of Al_2O_3.

4. The method of claim 3, wherein the first silica film is cured for at least 6 hours.

5. The method of any one of claims 2 to 4, wherein the second silica film is cured for at least 6 hours.

6. The method of any one of claims 2 to 5, wherein the first silica film and the second silica film are cured at normal room temperature or at elevated temperature.

7. The method of any one of claims 2 to 6, wherein forming the first silica film and the second silica film comprises dipping the copper wire or strip into or wiping the copper wire or strip with a mixture of polysilazane, perhydropolisilazanes and solvent.

8. The method of any one of claims 2 to 7, wherein the layer of Al_2O_3 is deposited using atomic layer deposition method.

9. The method of any one of claims 1 to 8, wherein the first silica film and the second silica, each comprises polysilazane and perhydropolisilazanes.

10. An electrically insulated copper wire or strip comprising a coating on the copper wire or strip, wherein the coating consists of a layer of Al_2O_3 sandwiched between a first silica film and a second silica film, each having a thickness of 1-2µm.

11. The copper wire or strip of claim 10, wherein the first silica film and the second silica, each comprises polysilazane and perhydropolisilazanes.