COATED COPPER (Cu) WIRE FOR BONDING APPLICATIONS

ABSTRACT

The invention relates to a wire and a method of manufacture, the wire comprising at least a core comprising copper and elemental phosphorus; a first coating layer composed of at least one element selected from the group comprising of palladium, platinum and silver; a further coating layer composed of at least one element selected from silver and gold; characterized in that at least one of the following conditions is met: A1) the ratio of the average grain size of the crystal grains in the core and the diameter of the wire is in the range of from 0.14 – 0.28 and the relative standard deviation RSD of the average grain size is less than 0.9; or A2) the degree of recrystallization of the crystal grains in the core is in the range of from 50 to 95 %; or A3) the fraction of twin boundaries is in the range of from 2 to 25 %; or A4) 18 to 42 % of the grains of the wire are oriented in <100> direction and 27 to 38 % of the grains of the wire are oriented in <111> direction.

Fig. 6