

ABSTRACT

To provide a producing method of a spiral contact that exhibits, even in a hot environment, low permanent set in fatigue, excellent spring characteristic and excellent electrical conductivity. In the producing method in which atoms of a dissimilar metal are diffused and infiltrated into a surface layer of the spiral contact (7) by being heated in a state where the spiral contact (7) is brought into contact with the dissimilar metal, by heating titanium (or aluminum) deposited on the surface of the spiral contact, copper of a Cu substrate (1) and nickel which is a core material of the spiral contact (7), atoms of Ti (or Al) and atoms of Cu are diffused and infiltrated into the surface layer of the core material (Ni) to form alloys (7c) and (7d). The heating temperature is set such that a lower limit thereof is the temperature corresponding to 0.4 times the absolute temperature of the melting point of the metal with the highest melting point among the core metal and dissimilar metal brought in contact with each other while an upper limit thereof is the absolute temperature of the melting point of the metal with the lowest melting point among the core metal and dissimilar metal brought in contact with each other. Further, Ni (as a barrier material) is formed between the core material and the Cu substrate, and Cu is used as the core material.