

ABSTRACT

[Problem]

The present invention provides a thin carbon layer entirely on a noble metal thin silver alloy wire, thereby preventing a noble metal thin silver alloy from being sulfurized or oxidized in air by a reductive effect of this carbon (C), and also removes a silver sulfide (Ag_2S) film or the like weakly bound to a surface of the silver alloy wire from a bonded interface by weak heat energy of ultrasound upon second bonding.

[Solution means]

The noble metal thin silver alloy wire for ball bonding of the present invention is characterized in that its wire surface is a wire drawing worked surface in which a diameter of a continuous cast surface is reduced by a diamond dies and an organic carbon layer in a total organic carbon amount (TOC value) of 50 to 3,000 $\mu\text{g}/\text{m}^2$ has been formed entirely on the wire drawing worked surface in a surface structure of the noble metal thin silver alloy wire for ball bonding, which includes at least one of palladium (Pd), platinum (Pt) and gold (Au) with a purity of 99.9% by mass or more in a total amount of 0.1 to 6% by mass with a balance being silver (Ag) with a purity of 99.99% by mass or more.

[Selected drawing] None