Claims

[Claim 1] A copper alloy fine wire for ball bonding, comprising: 0.02 mass% or more and 2 mass% or less of nickel (Ni), 5 mass ppm or more and 800 mass ppm or less of phosphorus (P), less than 100 mass ppm in total of other base metal elements, 10 mass ppm or less of oxygen and the remainder of copper (Cu).

[Claim 2] A copper alloy fine wire for ball bonding, comprising: a core material made of a copper alloy which comprises 0.02 mass% or more and 2 mass% or less of nickel (Ni), 5 mass ppm or more and 800 mass ppm or less of phosphorus (P), less than 100 mass ppm in total of other base metal elements, 10 mass ppm or less of oxygen and the remainder of copper (Cu), wherein the core material made of the copper alloy is covered with a stretched layer made of palladium (Pd).

[Claim 3] A copper alloy fine wire for ball bonding, comprising: a core material made of a copper alloy which comprises 0.02 mass% or more and 2 mass% or less of nickel (Ni), 5 mass ppm or more and 800 mass ppm or less of phosphorus (P), less than 100 mass ppm in total of other base metal elements, 10 mass ppm or less of oxygen and the remainder of copper (Cu), wherein the core material made of the copper alloy is covered with a stretched layer made of palladium (Pd) and a stretched thin layer made of gold (Au).

[Claim 4] The copper alloy fine wire for ball bonding according to any one of claims 1 to 3, wherein the upper limit of said nickel (Ni) is 1 mass% or less.

[Claim 5] The copper alloy fine wire for ball bonding according to any one of claims 1 to 3, wherein the upper limit of said phosphorus (P) is 200 mass ppm or less.