

ABSTRACT

COPPER STRAND FOR BONDING WIRE AND METHOD FOR PRODUCING
COPPER STRAND FOR BONDING WIRE

This semi-wrought copper wire for a bonding wire is a semi-wrought copper wire for forming a bonding wire having a wire diameter of 180 μm or less. A diameter of the semi-wrought copper wire is in a range of 0.15 mm or more and 3.0 mm or less. The semi-wrought copper wire has a composition that contains one or more additional elements selected from Mg, Ca, Sr, Ba, Ra, Zr, Ti, and rare-earth elements such that a total content thereof is in a range of 0.0001 mass% or more and 0.01 mass% or less, with a remainder being copper and unavoidable impurities. A special grain boundary ratio ($L\sigma/L$) of the semi-wrought copper wire which is a ratio of a special grain boundary length $L\sigma$ to a total crystal grain boundary length L measured by an EBSD method is in a range of 50% or more.

Fig. 1