CLAIMS

1. A composition for pressure bonding, comprising: a metal powder comprising copper, ~~and~~ a solid reducing agent and a liquid medium having a boiling point of less than 300°C at 1 atm,

wherein the composition has a viscosity of 20 to 200 Pa·s at a shear rate of 10 s^{-1} and 25°C,

the solid reducing agent has a chemical structure having at least one amino group and a plurality of hydroxyl groups,

a content ratio of the solid reducing agent in the composition is 0.1 parts by mass or more and 10 parts by mass or less, with respect to 100 parts by mass of the metal powder,

the composition has a compressibility of ~~10~~ 31.9% to ~~90~~ 71.0%, the compressibility being expressed by the formula (X) below:

$$\text{Compressibility (\%)} = ((A-B)/A) \times 100 \qquad \text{(X)}$$

wherein A represents a thickness (μm) of a dried coating film formed by drying the composition in an air atmosphere at 110°C under atmospheric pressure for 20 minutes, and

B represents a thickness (μm) of a sintered body formed by treating the dried coating film in a nitrogen atmosphere at 280°C under a pressure of 6 MPa for 20 minutes.

2. The composition for pressure bonding according to claim 1, wherein the metal powder contains flat copper particles.

3. The composition for pressure bonding according to claim 2, wherein the flat copper particles have an aspect ratio (a/b) of 2 to 80.

4. The composition for pressure bonding according to any one of claims 1 to 3,

wherein the metal powder contains dendritic copper particles.

5. The composition for pressure bonding according to any one of claims 1 to 4, wherein the metal powder further contains at least one of gold, silver, palladium, aluminum, nickel, and tin.

6. The composition for pressure bonding according to any one of claims 1 to 5, comprsing the solid reducing agent in an amount of 0.1 to 10 parts by mass with respect to 100 parts by mass of the metal powder.

7. The composition for pressure bonding according to any one of claims 1 to 6, wherein the solid reducing agent is an amino alcohol compound.

8. The composition for pressure bonding according to any one of claims 1 to 7, further comprising a liquid medium having a boiling point of less than 300°C.

9. The composition for pressure bonding according to claim 8, wherein the liquid medium contains polyethylene glycol.

10. The composition for pressure bonding according to any one of claims 1 to 9, having a viscosity of 20 to 200 Pa·s at a shear rate of 10 s^{-1} and 25°C.

11. A method for producing a bonded structure of conductors, the method comprising:

applying the composition for pressure bonding according to any one of claims 1 to 10 to a surface of a first conductor to form a coating film;

drying the coating film to form a dried coating film;

stacking a second conductor on the dried coating film to obtain a stack; and

subsequently sintering the metal powder, which contains copper, of the stack in a nitrogen atmosphere at less than 300°C under a pressure of 0.001 MPa or more, to thereby

form a bonding portion via which the first conductor and the second conductor are bonded together.