Claims

1. A method for producing a silver powder, the method comprising the steps of:

preparing a large-diameter silver powder which has a crystalline size of 50 nm or less and which has a particle diameter (D_{50}) of 1 μm or more and 4 μm or less, the crystalline size of the large-diameter silver powder being measured by means of a powder X-ray diffractometer to be calculated, the particle diameter (D_{50}) of the large-diameter silver powder being a particle diameter corresponding to 50% of accumulation in a volume-based particle size distribution obtained by measuring the large-diameter silver powder in a wet process by means of a laser diffraction scattering particle size distribution analyzer;

preparing a small-diameter silver powder which has a crystalline size of 50 nm or less and which has a particle diameter (D_{50}) of 0.3 μm or more and less than 1 μm, the crystalline size of the small-diameter silver powder being measured by means of the powder X-ray diffractometer to be calculated, the particle diameter (D_{50}) of the small-diameter silver powder being a particle diameter corresponding to 50% of accumulation in a volume-based particle size distribution obtained by measuring the small-diameter silver powder in a wet process by means of the laser diffraction scattering particle size distribution analyzer; and

mixing the large-diameter silver powder with the small-diameter silver powder to produce a silver powder which has a crystalline size of 50 nm or less and which has a pressed density of 6.3 g/cm3 or more, the crystalline size of the silver powder being measured by means of the powder X-ray diffractometer to be calculated,

wherein a particle diameter (D_{50}) corresponding to 50 % of accumulation in a volume-based particle size distribution obtained by measuring the produced silver powder in a wet process by means of the laser diffraction scattering particle size distribution analyzer is in the range of from 1.2 μm to 3.0 μm, and

wherein a ratio of a particle diameter (D_{90}) to a particle diameter (D_{10}) is in the range of from 4.0 to 6.5, the particle diameter (D_{90}) and the particle diameter (D_{10}) being particle diameters corresponding to 90 % and 10 % of accumulation, respectively, in the volume-based particle size distribution.

~~2. A method for producing a silver powder as set forth in claim 1, wherein a ratio of a particle diameter (D_{90}) to a particle diameter (D_{10}) is in the range of from 4.0 to 6.5, the particle diameter (D_{90}) and the particle diameter (D_{10}) being particle diameters corresponding to 90 % and 10 % of accumulation, respectively, in a volume-based particle size distribution obtained by measuring the produced silver powder in a wet process by means of the laser diffraction scattering particle size distribution analyzer.~~

~~3. A method for producing a silver powder as set forth in claim 1, wherein a particle diameter (D_{50}) corresponding to 50 % of accumulation in a volume-based particle size distribution obtained by measuring the produced silver powder in a wet process by means of the laser diffraction scattering particle size distribution analyzer is in the range of from 1.2 μm to 3.0 μm.~~

~~4~~2. A method for producing a silver powder as set forth in claim 1, wherein the measurement in the wet process by

means of the laser diffraction scattering particle size distribution analyzer is carried out in a state that the silver powder is dispersed in isopropyl alcohol.

~~5~~3. A silver powder which has a crystalline size of 50 nm or less and which has a pressed density of 6.3 g/cm3 or more, the crystalline size of the silver powder being measured by means of a powder X-ray diffractometer to be calculated,

wherein a particle diameter (D_{50}) corresponding to 50 % of accumulation in a volume-based particle size distribution obtained by measuring the produced silver powder in a wet process by means of the laser diffraction scattering particle size distribution analyzer is in the range of from 1.2 μm to 3.0 μm, and

wherein a ratio of a particle diameter (D_{90}) to a particle diameter (D_{10}) is in the range of from 4.0 to 6.5, the particle diameter (D_{90}) and the particle diameter (D_{10}) being particle diameters corresponding to 90 % and 10 % of accumulation, respectively, in the volume-based particle size distribution.

~~6. A silver powder as set forth in claim 5, wherein a ratio of a particle diameter (D_{90}) to a particle diameter (D_{10}) is in the range of from 4.0 to 6.5, the particle diameter (D_{90}) and the particle diameter (D_{10}) being particle diameters corresponding to 90 % and 10 % of accumulation, respectively, in a volume-based particle size distribution obtained by measuring the silver powder in a wet process by means of a laser diffraction scattering particle size distribution analyzer.~~

~~7. A silver powder as set forth in claim 5, wherein a particle diameter (D_{50}) corresponding to 50 % of accumulation in a volume-based particle size distribution obtained by measuring the silver powder in a wet process by means of a laser diffraction scattering particle size distribution analyzer is in the range of from 1.2 μm to 3.0 μm.~~

~~8~~4. A silver powder as set forth in claim ~~5~~3, wherein the measurement in the wet process by means of the laser diffraction scattering particle size distribution analyzer is carried out in a state that the silver powder is dispersed in isopropyl alcohol.

~~9~~5. An electrically conductive paste wherein a silver powder as set forth in claim ~~5~~ 3 is dispersed in an organic component.