

LeafPowder™ Ag

May, 2020

LeafPowder™ Ag

2

- Nano & micron size powder

(nanometer : thickness, micrometer : particle size)

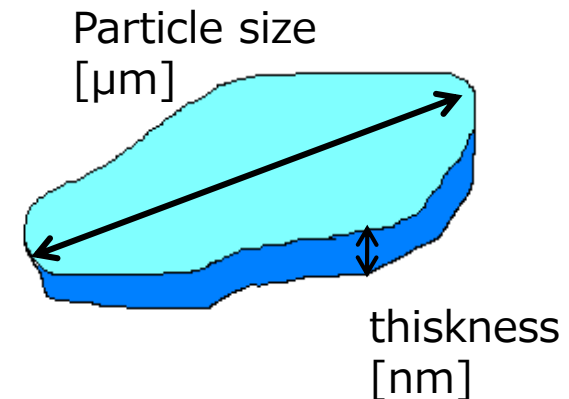
→ expect for bulk material function & quantum effect

- High aspect ratio & Scale-like shape

→ thinner & high adhesion

- Flexible selection of materials

→ possible to make various compounds
by stacking layer technology



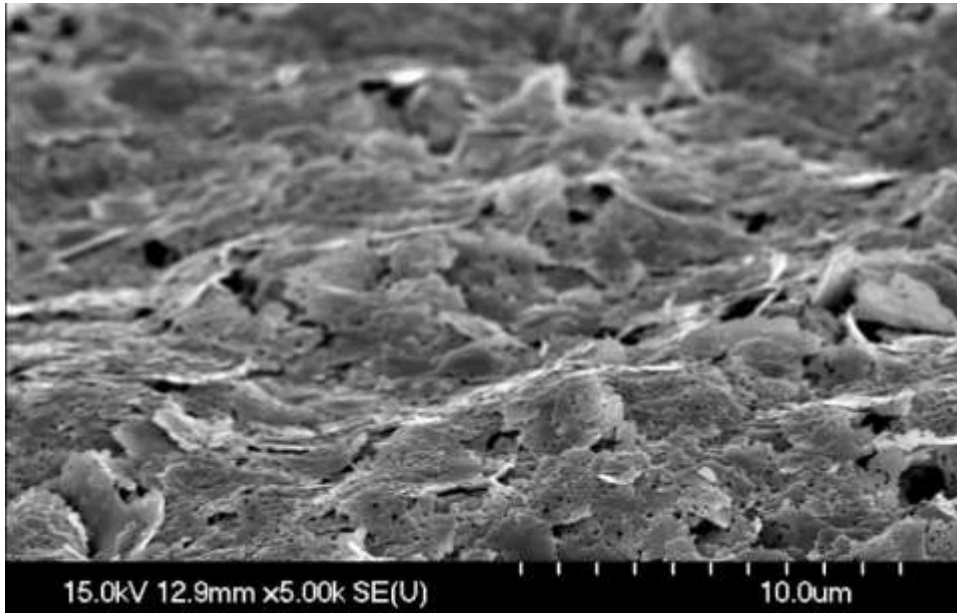
All other values are either nominal values or typical (typ.) values, and are not guaranteed

LeafPowder™ Ag

3

LeafPowder™ Ag 47CE-5060 (butyl acetate)

LeafPowder™ Ag 47CE-2055 (terpineol)



Typ. value	
Ave. size	3.0~4.0 µm
Thickness	33~38 nm
True density(ref.)	6.0~7.0 g/cm ³
Roughness(ref.)	5.0~7.0 nm
Dispersion solvent	Butyl acetate Terpineol
Concentration	55~60 wt%

All other values are either nominal values or typical (typ.) values, and are not guaranteed

LeafPowder™ Ag

4

Characteristics of conductive paste

	Ag concentration [wt%]	Binder	PVC [vol%]	Thickness [μm]	Volume resistivity [Ω·cm]
47CE-2055	59	Ethocel STD-200 (10wt%)/TPO	70	5.6	7×10^{-6}
Sample A	100	ditto	70	12.4	3×10^{-5}

Preparation

- adjusting Ag slurry and binder to PVC 70vol%
- mixing by planetary centrifugal mixer, kneading by roll mil.
- making 10mm×40mm pattern by masking on glass plate
- squeegeeing paste, drying 30 min. at 120°C.

Test method

- thickness : measured by step gauge
- volume resistivity : measured by loresta meter

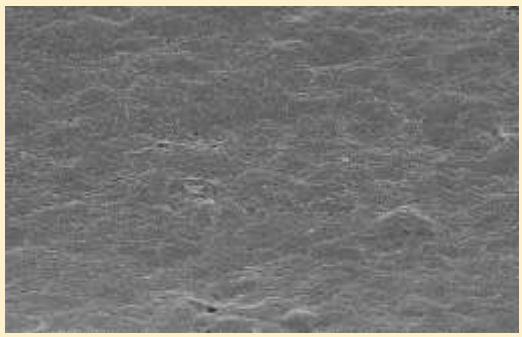

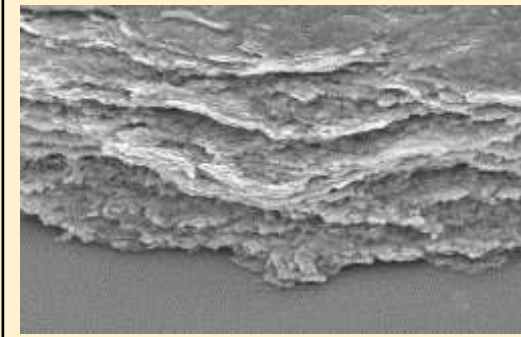
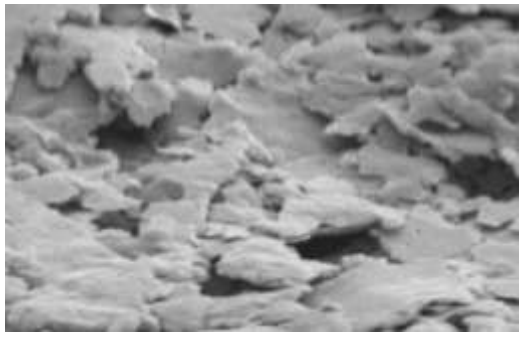
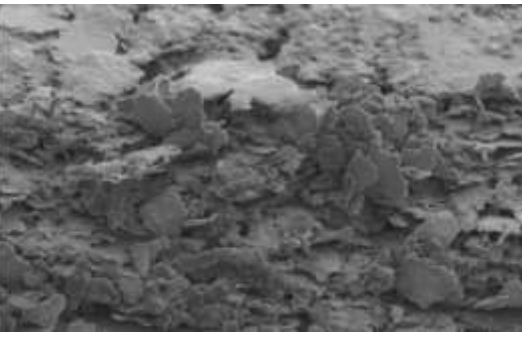
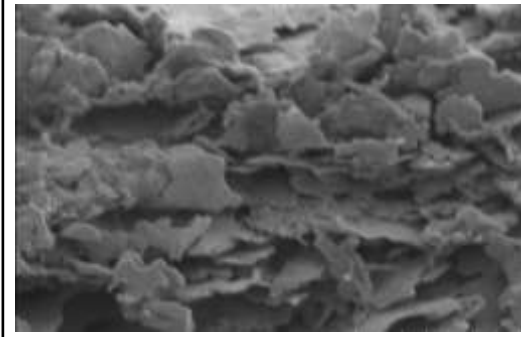
All other values are either nominal values or typical (typ.) values, and are not guaranteed

LeafPowder™ Ag

5

SEM images of LeafPowder™ Ag 47CE-2055

After curing paste

	Surface	Cross section	Cross section
47CE-2055			
Sample A			

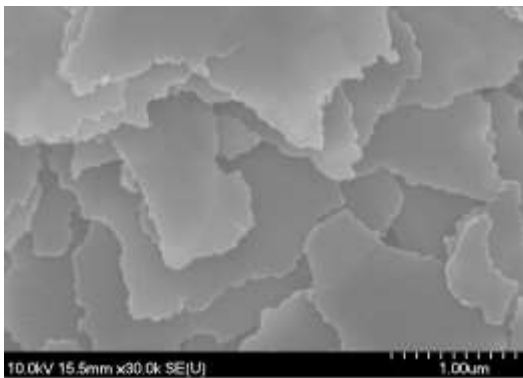
All other values are either nominal values or typical (typ.) values, and are not guaranteed

LeafPowder™ Ag

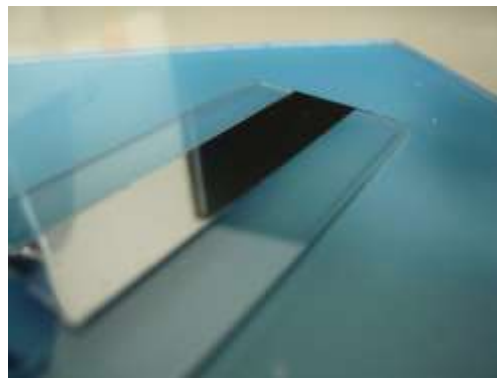
6

✓ Specification

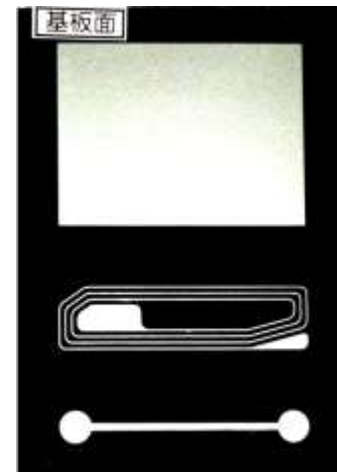
Grade	Ave. size	Dispersion solvent	Concentration
47CE-2055	3 μ m	Terpineol	55wt%
47CE-5060	3 μ m	Butyl acetate	60wt%



SEM image of LeafPowder™ Ag



Coating on glass



Print sample

All other values are either nominal values or typical (typ.) values, and are not guaranteed