

SHT NP-AgSiC

Silicon Carbide Coated with Nano Silver

DESCRIPTION

SHT NP-AgSiC is based on beta-type silicon carbide nanoparticles, and a series of surface modification processes are carried out to realize the surface silver coating. SHT NP-AgSiC shows excellent performance both in mechanical and thermal applications. Different from the purified silicon carbide, SHT NP-AgSiC has a good wetting property with molten metals, like Tin, which offers it potential applications in the field of solder enhancement. Also, beta silicon carbide has a very high thermal conductivity and a relatively low price compared with silver. Therefore, SHT NP-AgSiC can partly displace pure silver in high-thermal applications, like conductive paste or adhesive.

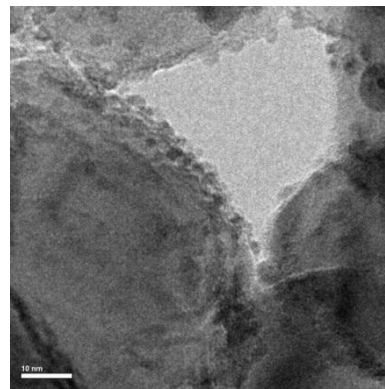
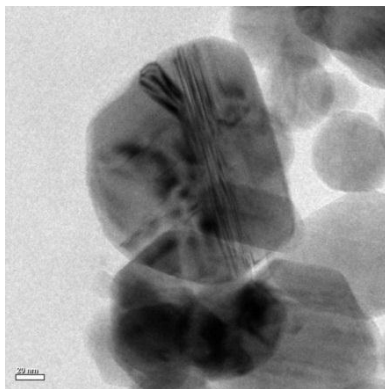


Figure 1: TEM images of pure silicon carbide (left) and silver coated silicon carbide (right).

FEATURES AND BENEFITS

- Large aspect ratio
- Functionalized surface
- Fine and uniform silver nanoparticles
- Liquid metals will wet the surface of the particles

TYPICAL APPLICATIONS

- Catalyst
- Composite
- Capacitor
- Antibacterial
- Solar cell
- Thermal management

TYPICAL PROPERTIES OF SHT NP-AgSiC

PROPERTY	
Composition (mass ratio)	SiC (>82%), Ag (16%), Pd (<2%)
Appearance	Gray powder
Morphology	Spheres
Diameter	50 nm (>85%)
Purity	>99%
Density	3.7 g/cm ³
Specific Surface Area	>80 m ² /g
Crystal Phase	Cubic FCC

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