

PELCO® High Performance Silver Paste, 50g
Product No. 16047



Description:

PELCO® High Performance Silver Paste is a dispersion of 20 µm silver flakes in an inorganic silicate aqueous solution. It is specially formulated for applications demanding high continuous service temperature and/or low VOC's for high vacuum applications but it also performs at cryogenic temperatures. It provides both high electrical and thermal conductivity. Its sheet resistance is 0.08 ohms/sq/mil (25µm). Its thermal conductivity is 9.1 W/m°K. Surfaces to be coated should be clean and dry

Advantages:

- One component system. - No mixing required.
- Inorganic system – no hydrocarbons no VOC's.
- High service temperature. – Up to 927 °C (1700 °F), strength improves with temperature.
- Low temperature capability. - Not effected by cryogenic temperatures but bond integrity will depend on joint design and differential thermal expansion between substrate, sample, and paste.
- Electrically and thermally conductive.
- Suitable for high vacuum applications.
- Refrigeration not required.
- High viscosity paste – viscosity can be reduced by adding water.
- Water soluble after cure – solubility is reduced the higher the temperature it is exposed to.

Typical Properties (as supplied)

Pigment: Silver

Binder: Inorganic Silicate

Diluent: Water

Consistency: smooth, flowing paste – viscosity can be reduced by adding water.

Silver content by weight: >60%

Density: 2.3 g/cc

Shelf life: 6 months minimum after receipt of paste – can be increased by adding water and/or removing skin that can form on the top layer.

Storage: Store at room temperature in tightly sealed container. Do not freeze.

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Cure Schedule

(bond time/temperature)

Achieves good mechanical strength with low conductivity in a matter of minutes at room temperature but requires a 2 hour cure at 93°C (200 °F) to achieve stated high conductivity and a strong bond.

Strength improves with temperature and it becomes almost insoluble if exposed to temperatures above 260°C (500 °F).

Must be cured before use at cryogenic temperatures.

Typical Properties (when dried)

Recommended thickness: 0.5-1.5 mils dried (12.5-37.5µm.)

Sheet resistance: 0.08 ohms/sq/mil (25µm).

Thermal Conductivity: 9.1 W/m°K.

Soluble in water: up to 260°C (500 °F) exposure. Will still soften in water but may require abrasion to remove.

Bond strength: moderate but brittle.