



## Commercial Powder

Metal Group – **COPPER**  
 Catalogue No. – **SST-C5003**



### Description:

A pure copper powder with special particle size distribution, tailored for cold spray applications that require high electrical conductivity, an antimicrobial surface, and thermal management. The resulting cold spray coating presents full density, acceptable bonding strength on steel, and good machinability.

### Specifications:

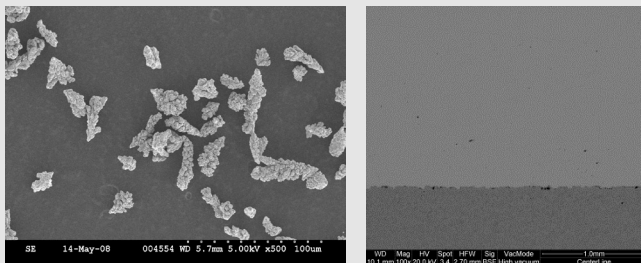
#### Material Properties

Composition: **Cu 99.7% Min.**  
 Particle Size: **-45 to +5 µm**  
 Characteristics: **Irregular shaped particles for maximum velocity.**

#### Typical Coating Properties

	Series P	Series EP
Bond Strength:	> 1300 psi	> 1700 psi
Deposition Efficiency:	Up to 45%	Up to 88%
Deposition Rate:	Up to 8 g/min	Up to 78 g/min
Hardness (Brinell):	85 – 90	105 – 120
Density:	> 99.5%	> 99.5%

#### Typical Micrograph



SST-C5003 Powder      SST-C5003 Coating on Steel (Series EP)

#### Ordering Information

Catalogue Number: **SST-C5003**  
 Standard Packaging: **400 ml or 1 gallon sized container**  
 Selling Unit: **Pound**  
 Material Certification: **Available upon request**

#### Recommended Spray Parameters

*(When utilizing CenterLine Cold Spray equipment. Recommendations may not apply when making use of non-CenterLine equipment)*

	Series P	Series EP
Temperature:	350– 450°C	350 – 450°C
Pressure:	100 – 250 psi	100 – 500 psi
Powder Pre-heating*:	N/A	≤ 350°C
Standoff Distance:	10 – 25 mm	10 – 40 mm
Gas:	<b>Nitrogen</b>	
Feed Rate (gram/min.):	12 – 25	12 – 95
Gun Traverse Speed:	<b>10 – 500 mm/s depending on process settings and target coating thickness</b>	
Surface Preparation:	<b>SST-G0002 commercial blast</b>	
Spray Nozzle:	<b>UtiliLife™</b>	

To discuss your Cold Spray Application(s) or for more information about powders and blends, please contact your CenterLine SST representative or visit our website at [www.supersonicspray.com](http://www.supersonicspray.com).

#### \* Notice for Powder Heater Use

Due to the specific material characteristics of this powder, equipment settings that deviate from the **Recommended Spray Parameters** listed above may result in clogging the powder heater. These parameters are based on 10 minutes of continuous spray time. For applications that require continuous spray times exceeding 10 minutes, please consult with CenterLine to receive assistance in optimizing spray parameters. Note that the SST Spray Machine and Gun User's Manuals also contain information on proper settings and operating parameters.