



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

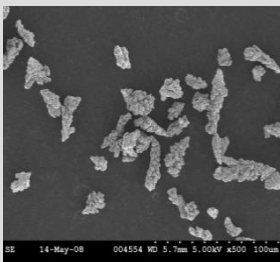
Composition:	Cu 99.7% Min.	
Particle Size:	-45 to +5 µm	
Characteristics:	Irregular shaped particles for maximum velocity	

Typical Coating Properties

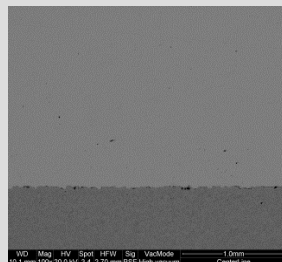
	<u>Series P/PX</u>	<u>Series EP/EPX</u>
Bond Strength*:	> 1100 psi	> 1200 psi
Hardness (Brinell):	85 – 90	105 – 120
Density:	> 99.5%	> 99.5%
Deposition Efficiency:	Up to 45%	Up to 65%
Deposition Rate:	Up to 14 g/min	Up to 60 g/min

*Higher bond strengths can be achieved. Please consult with CenterLine to receive assistance in optimizing the spray parameters.

Typical Micrograph



SST-C5003 Powder



SST-C5003 Coating on Steel
(Series EP)

Spray Parameter Ranges

Spray parameters only apply to CenterLine Cold Spray equipment.

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

Ordering

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

To discuss your Cold Spray Application(s), including the optimization of spray parameters for higher coating bond strengths, or for more information about powders and blends, please contact your CenterLine SST representative or visit our website at www.supersonicspray.com.