



Commercial Powder

Metal Group – **ALUMINUM**
Catalogue No. – **SST-A0027**



Description:

A general purpose aluminum-based powder mixture containing aluminum, zinc, and alumina, with fast deposition build-up speed. The blend particle size distribution is especially tailored for the cold spray process, and is suitable for repairing a variety of components and freeform fabrication. It can produce very thick and smooth deposition. The coating presents full density, good bonding strength, and excellent machinability.

Specifications:

Material Properties

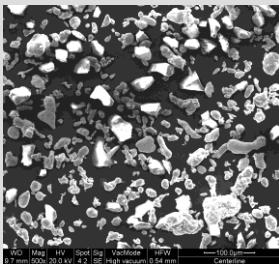
Composition:	Al 99.5% Min., Al₂O₃ 92% Min., Zn 99.7% Min.
Particle Size:	-45 to +5 µm
Characteristics:	Irregular shaped particles for maximum velocity

Typical Coating Properties

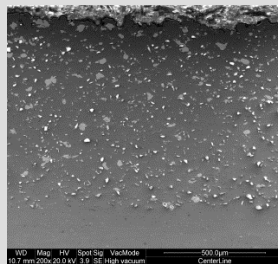
	<u>Series P/PX</u>	<u>Series EP/EPX</u>
Bond Strength*:	> 5500 psi	> 6500 psi
Hardness (Brinell):	46 – 50	59 – 62
Density:	> 99.5%	> 99.5%
Deposition Efficiency:	Up to 30%	Up to 45%
Deposition Rate:	Up to 8 g/min	Up to 35 g/min

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

Typical Micrograph



SST-A0027 Powder



SST-A0027 Coating on Al6061
(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 – 500°C	350 – 550°C
Pressure:	100 – 250 psi	100 – 500 psi
Powder Pre-heating:	N/A	N/A
Standoff Distance:	10 – 25 mm	10 – 40 mm
Gas:	Compressed air or Nitrogen	
Feed Rate (gram/min):	12 – 25	12 – 80
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-A0027
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.