SST-A0050

PRACTICAL COLD SPRAY COATINGS

TECHNICAL DATA SHEET

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Commercial Powder

Metal Group – **ALUMINUM**
Catalogue No. – **SST-A0050**

Description:

A general purpose aluminum-based blend of aluminum and alumina particles, 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 aluminum and magnesium components and for freeform fabrication. The coating presents full density, good bonding strength, excellent machinability, and good corrosion resistance.

Specifications:

Material Properties

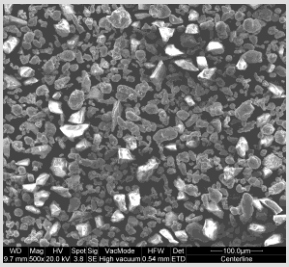
Composition:	**Al 99.5% Min., Al_2O_3 92% Min.**
Particle Size:	**-45 to +5 µm**
Characteristics:	**Irregular shaped particles for maximum velocity**

Typical Coating Properties

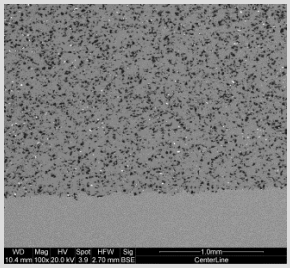
	Series P/PX	Series EP/EPX
Bond Strength*:	**> 3900 psi**	**> 4800 psi**
Hardness (Brinell):	**40 – 46**	**62 – 64**
Density:	**> 99.5%**	**> 99.5%**
Deposition Efficiency:	**Up to 35%**	**Up to 50%**
Deposition Rate:	**Up to 9 g/min**	**Up to 40 g/min**

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

Typical Micrograph



SST-A0050 Powder



SST-A0050 Coating on Al6061 (Series EP)

Spray Parameter Ranges

Spray parameters only apply to CenterLine Cold Spray equipment.

	Series P/PX	Series EP/EPX
Temperature:	**300 – 550°C**	**300 – 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):	**4 – 25**	**4 – 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-A0050**
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.

CenterLine (Windsor) Limited, Supersonic Spray Technologies Div., 655 Morton Drive, Windsor, ON, N9J 3T9
Phone: **(519) 734-8330**, Toll Free: **(800) 820-6977**,
Email: **info@cntrline.com**, Website: **www.supersonicspray.com**