



Commercial Powder

Metal Group – **ALUMINUM**
 Catalogue No. – **SST-A5012**



Description:

Aluminum Alloy powder (Al6061, SST Catalog No. SST-A5012) with special particle size distribution for cold spray processes, it is suitable for applications in salvage and restoration of aluminum components. Cold spray coating presents high density, excellent bonding strength on Al6061 substrate, and good machinability.

Specifications:

Material Properties

Composition: **Si 0.4 - 0.8%, Mg 0.8 - 1.2%,
 Cu 0.15 - 0.4%, Fe 0.7% Max.,
 Cr 0.35% Max., Zn 0.25% Max.,
 Ti 0.15% Max., Mn 0.15% Max.,
 other 0.15% Max., Al Bla.**

Particle Size: **-45 to +5 µm**

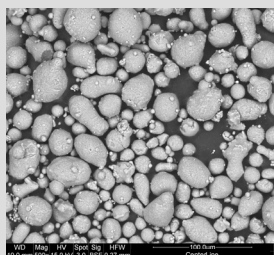
Characteristics: **Spherical particles**

Typical Coating Properties

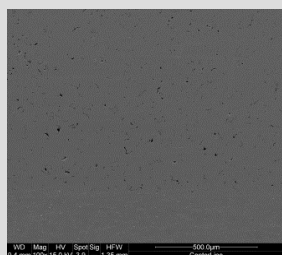
Bond Strength*: **> 4000 psi**
 Hardness (Brinell): **72 – 86**
 Density: **> 97%**
 Deposition Efficiency: **Up to 30% (with powder heater)**
 Deposition Rate: **Up to 9 g/min**

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

Typical Micrograph



SST-A5012 Powder



SST-A5012 Coating on Al6061
(Series EP)

Ordering Information

Catalogue Number: **SST-A5012**
 Standard Packaging: **400 ml or 1 gallon sized container**
 Selling Unit: **Pound**
 Material Certification: **Available upon request**

Spray Parameter Ranges

Spray parameters only apply to CenterLine Cold Spray equipment.

Series EP/EPX

Temperature: **450 – 500 °C**
 Pressure: **450 – 500 psi**
 Powder Pre-heating**: **≤ 300 °C**
 Standoff Distance: **10 – 40 mm**
 Gas: **Nitrogen**
 Feed Rate (gram/min): **12 – 50 without powder pre-heater
 12 – 30 with powder pre-heater**
 Gun Traverse Speed: **10 – 200 mm/s depending on
 process settings and target
 coating thickness**
 Surface Preparation: **SST-G0002 commercial blast or
 grease free as-machined surface**
 Spray Nozzle: **UltiFlow™**

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.

**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 30 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.