



# SUPERIOR SOLDER PASTE AL261-193-75



## DIRECT ALUMINUM LOW TEMPERATURE SOLDERPASTE

- Solders directly to aluminum for aluminum to copper and aluminum to aluminum connections
- Eliminating the need for plating aluminum before soldering
- Offers the low melting point temperature needed for heat pipe soldering
- Good thermal stability for heat sink reflow soldering
- Best results when soldering to 1XXX series aluminum

## DESCRIPTION

**Superior Solder Paste AL261-193-75** is a water-soluble formulation designed for the low temperature direct soldering of aluminum to copper for heat sinks and other aluminum connections. It also has excellent soldering characteristics for copper and nickel-plated aluminum surfaces. This is based on low temperature tin-bismuth-silver metallurgy; the presence of silver in the solder alloy permits the creation of a true intermetallic bond between the solder and the aluminum.

## APPLICATION

**Superior Solder Paste AL261-193-75** is made from Type 3 Powder (-325/+500 Mesh Powder) with a unique flux binding system for very active aluminum flux. The ideal temperature for printing and dispensing the paste is 20°– 23°C with a relative humidity of 35-55%.

<i>Printing Parameters:</i>	Squeegee Blade:	80 to 90 durometer polyurethane or stainless steel
	Stencil Material:	Stainless Steel, Molybdenum, Nickel Plated, Brass
	Temp/Humidity:	Optimal ranges are 20-25°C and 35-55% Rel. Humidity

## DIRECTIONS

- ❶ For heat sink applications **Superior Solder Paste AL261-193-75** is normally applied via flat printing pattern to the heat sink base. Heat pipe in fins have solder paste applied via syringe.
- ❷ Parts are passed through the reflow oven matching the necessary reflow pattern for the mass of the heat sink being soldered. Part temperature must reach 180-195°C to activate the flux
- ❸ Cleaning of the soldered part should be done in-line with hot water rinse followed by counterflowing cold water rinses then drying.

*Superior manufactures quality fluxes. Our business is solving problems.*



**Superior Flux  
& Mfg. Co.**

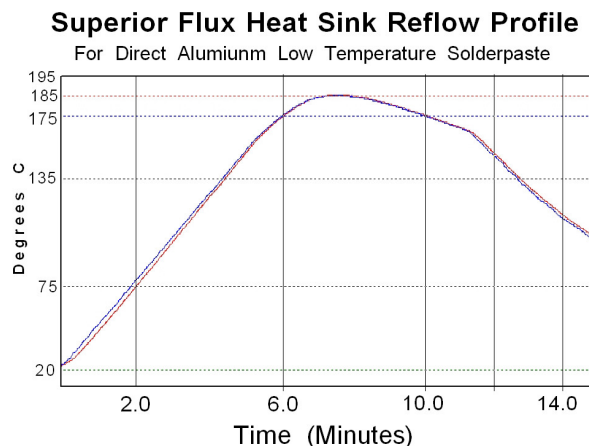
6615 Parkland Blvd. • Cleveland, OH 44139 • Phone: 440-349-3000 • Fax:  
440-349-3003 [www.superiorflux.com](http://www.superiorflux.com) • e-mail: [info@superiorflux.com](mailto:info@superiorflux.com)

## PHYSICAL PROPERTIES

Density @ 20°C (68°F)	2.97 grams/liter
Viscosity @ 20°C (68°F)	280,000 – 480,000 kcps
Recommended Soldering Range	180 – 195°C
Alloy Melting Point	140 – 139°C
Odor	Mild
Flash Point	None

## TEMPERATURE PROFILE

The profile (depending on thermal mass) should reach max temp within 8 minutes. Heating has to be must be above 180°C to bond to aluminum



## CLEANING and STORAGE

**Superior Solder Paste AL261-193-75** is a water soluble paste formulation. All equipment in contact with the solder paste can be cleaned with water (followed by alcohol rinsing if rapid drying is needed).

**Superior Solder Paste AL261-193-75** should be stored with consideration of the effect that storage will have on the long term stability of the paste

- To achieve a shelf life of 12 months, store in a freezer below 0°C.
- To achieve a shelf life of 3-12 months, store in a refrigerator, 1-12°C.
- For non-refrigerated/frozen storage, maintain in a cool and dry location. Maximum temperature should not exceed 23°C. A storage time of up to 3 months can be expected.

## SAFETY PRECAUTIONS

**Superior Solder Paste AL261-193-75** attacks many metals to some extent. It is recommended that polyethylene, PVC or fiberglass reinforced polyester containers be used. Avoid skin contact and/or breathing vapors. Wear gloves and eye protection. This product, during handling or use, may be hazardous to health or the environment. Read the Material Safety Data Sheet and warning label before using this product.

The information contained herein is based on data considered to be accurate and is intended for use by persons having technical skills at their own discretion and risk. Since conditions of use are outside of Superior Flux & Mfg. Co.'s control, we cannot assume liability for results obtained or damage incurred due to misuse, nor can we assume customer liability.

***Superior manufactures quality fluxes. Our business is solving problems.***



**Superior Flux  
& Mfg. Co.**

6615 Parkland Blvd. • Cleveland, OH 44139 • Phone: 440-349-3000 • Fax:  
440-349-3003 [www.superiorflux.com](http://www.superiorflux.com) • e-mail: [info@superiorflux.com](mailto:info@superiorflux.com)