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## **IA 76 Series Solder Paste**

### ***Inorganic Acid***

#### **Description**

Fry IA 76 series solder paste features a highly activated flux, used for soldering oxidized copper, brass, stainless steel and difficult to solder substrates. The IA 76 series is very easy to clean in water after solder reflow, eliminating corrosive residuals. IA 76 was developed for use with lead free solder alloys (95/5 Sn/Sb; 99/1 Sn/Cu; 97/3 Sn/Cu and 99.5Sn/.5Ag). It provides excellent wetting and reflow characteristics, even under the demands of an open flame reflow system. IA 76 lead free solder paste is an excellent alternative to brazing pastes, where the service of the final assembly is not subjected to extreme (>450F) temperatures. IA 76 based formulas have been developed for dipping, automatic dispensing, roller coating, and spray-gun application.

#### **Uses**

IA 76 pastes are excellent for bonding heat exchange tubes to headers, fins to heat exchange tubes, copper tubing to brass fixtures, and any other copper, brass or even stainless steel soldering applications. Multiple joints can be soldered with a single reflow cycle, greatly increasing productivity over hand soldering with wire. Soldering heat exchange tubes to headers is optimized with solder paste in many ways:

- \* Elimination of contamination of an open dip-tank
- \* Elimination of dross (scrap) generation
- \* Eliminate the hazard of dripping, molten solder
- \* Eliminate freezing of solder in the dip tank
- \* Reduced energy required
- \* One step flux/solder process
- \* Eliminates need for flammable solder flux

IA 76 pastes are ideally suited for use in the radiator, heat exchange and plumbing fixture industries. Because of the high anti-oxidation activity of the IA 76 flux, powders with a finer particle size component have a longer shelf life. This means a wider cut of powder can be used, resulting in a wider formulating spectrum for this series.

#### **Reflow Profile**

Typical reflow profiles for IA 76 formulations include open flame, induction heating, IR or high temperature convection. Optimization of the reflow profile is dependent on the alloy, powder particle size distribution, and the heat capacity of the final assembly. Fry's technical staff is available to help optimize a reflow profile for the specific customer application.

## Trouble Shooting Guide

<i>Problem</i>	<i>Solution</i>
Solder Balling	Reduce the ramp-rate of the heat source. Increase the metal loading of the formulation
Cold Solder Joints	Reduce the soak time prior to reflow
No solder reflow	Increase the peak temperature
Poor Wetting	Pre-cleaning of the parts may be required

## Cleaning

IA 76 formulations may be easily cleaned with water. The inorganic acid residual is both highly soluble in water, and highly corrosive, so water cleaning is always recommended. Disposal of the cleaning water must be in accordance with local regulations. Neutralization with an alkaline source (NaOH) may help in meeting local pH regulations.

## Benefits

- 1) Excellent results with Fry lead free Powders
- 2) Excellent wetting on copper, nickel, brass and difficult to solder substrates
- 3) Easy water cleaning
- 4) Compatible with industrial grade (non-electronic) powders

## Physical Data

<b>Property</b>	<b>Typical Values</b>
Appearance	Grey Paste
Viscosity Range	30 Kcps to 450,000cps
Water Solubility	Completely
Odor	None
Melting Point	Alloy dependant

## Packaging

Powerbond solder pastes are available in syringes, cartridges, jars and 25 pound pails.

## Safety

Consult the Material Safety Data Sheet for other pertinent information before using this product.

### Important Notice to Purchaser

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