

TSF-6852

Lead Free Water-Soluble Tacky Soldering Flux

Product Description

Kester TSF-6852 is a synthetic water soluble tacky soldering flux. The synthetic ingredients eliminate naturally occurring raw materials typically found in fluxes. This maximizes lot-to-lot consistency. TSF-6852 is room temperature stable and does not require refrigeration for long term storage.

TSF-6852 has been formulated to be a drop in replacement for a variety of metallurgies. These include low melting point alloys (SnBi, SnBiAg, etc.), typical tin-lead eutectic and the higher melting point, lead-free alloys (SnAg, SnCu, SnAgCu, SnSb, etc.). Post reflow the residues are completely soluble in water and do not require any cleaning additives. To reduce the cost of assembling, room temperature or cool water (<65°C) can be used to remove TSF-6852 residues.

Performance Characteristics:

- Stencil life: 8 hours (process dependent)
- Room temperature long term storage
- Residue removal by water (<65°C)
- Synthetic raw materials for maximum lot-to-lot consistency
- Leaves bright/shiny solder joints after reflow
- Reflow in air or nitrogen environments
- Classified as ORH1 per J-STD-004

Physical Properties

Viscosity (typical): 220 poise
Malcom Viscometer @ 10rpm and 25°C

Initial Tackiness (typical): 61 grams
Tested to J-STD-005, IPC-TM-650, Method 2.4.44

Reliability Properties

Copper Mirror Corrosion: High
Tested to J-STD-004, IPC-TM-650, Method 2.3.32

Corrosion Test: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.6.15

Silver Chromate: Detected
Tested to J-STD-004, IPC-TM-650, Method 2.3.33

Chloride and Bromides: Detected
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

Fluorides by Spot Test: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.3.35.1

SIR, IPC (typical): Pass
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	<u>Blank</u>	<u>BAF-1450</u>
Day 1	3.1 × 10 ¹⁴ Ω	4.1 × 10 ¹⁴ Ω
Day 4	6.3 × 10 ¹⁴ Ω	4.6 × 10 ¹⁴ Ω
Day 7	6.6 × 10 ¹¹ Ω	3.4 × 10 ¹⁴ Ω

RoHS Compliance

This product meets all the requirements of the RoHS (Restriction of Hazardous Substances) Directive, 2002/95/EC Article 4 for the stated banned substances.

Application Notes

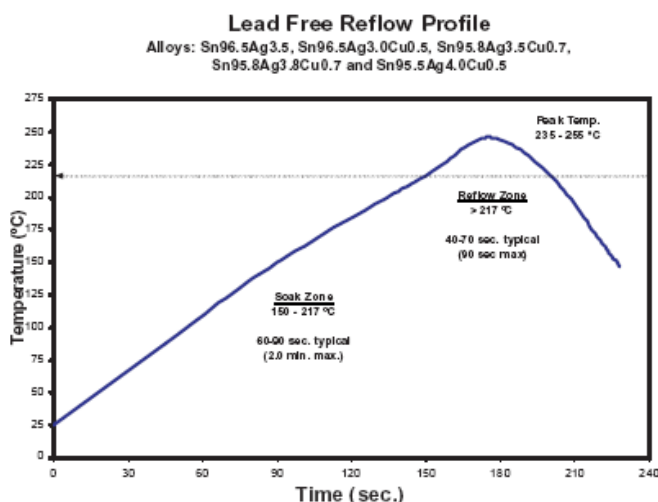
Standard Applications:

TSF-6852 is designed for stencil/screen printing, pin transfer, dot dispensing and/or syringe applications. Tacky solder flux formulations can be used as a tack and flux vehicle for soldering components to a solid solder deposit (SSD), or precision pad technology (PPT) board surfaces. Great for rework applications on all PCB packages. Can be used in BGA/PGA sphere/pin attachment vehicle or for repair and reballing/repinning.

Reflow Profile:

Recommended Reflow Profiles:

The recommended convection reflow profile for Sn96.5Ag3.5, Sn99.3Cu0.7, or the various SnAgCu alloys is shown here. This profile is simply a guideline. As TSF-6852 was engineered to be a versatile, robust interconnect material other reflow profiles will be effective. The optimal profile for a process may be different from the one shown based on oven type, component design, fixturing and mix of defects. Please contact Kester if additional profiling advice is needed. TSF-6852 will facilitate excellent wetting in an air reflow environment and can also be used in an inert (nitrogen) environment.



Cleaning:

TSF-6852 residues are best removed using automated cleaning equipment (in-line or batch). A de-ionized water final rinse is recommended. Water temperatures should be 38-65°C (100-150°F), with water pressure of 45 to 65 psi. For best results, flux residues should be removed as soon as possible, preferably within 4 hours after soldering. Assemblies should be checked for ionic cleanliness levels to maintain the highest standards possible. IPC J-STD-001 specifies a maximum of 1.56 micrograms/cm² NaCl equivalent when tested in accordance with IPC-TM-650, Test Method 2.3.25 or 2.3.26.

Storage, Handling, and Shelf Life:

TSF-6852 can be stored at room temperature, <25°C (<77°F), or refrigerated. If stored refrigerated, TSF-6852 should be kept at standard refrigeration conditions, 0-10°C (32-50°F). TSF-6852 should be stabilized at room temperature prior to printing. Please contact Kester if you require additional advice with regard to storage and handling of this material. Shelf life is 4 months from date of manufacture when stored at room temperature and handled properly.

Health & Safety:

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.

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