

TSF8808

Water Soluble Lead Free Tacky Soldering Flux

Global Datasheet

Product Description

Kester TSF8808 is a synthetic water soluble tacky soldering flux formula.

TSF8808 has no intentionally added halogens. It is specifically formulated to meet the IEC 61249-2-21 definition for halide free materials.

TSF8808 is designed to have low volatiles to reduce outgassing during reflow. This minimizes component movement and misalignment during reflow especially thin flip chip die. TSF8808 can be a drop in replacement for a variety of metallurgies; such as low melting point alloys (SnBi, etc.), typical tin-lead eutectic and the higher melting point alloys (SnAg, SnCu, SnAgCu, etc.). Post reflow the residues are completely soluble in water and do not require any cleaning additives. To reduce the cost of assembling, DI water can be used to remove TSF8808 residues.

- Residue removal by DI water
- Synthetic TSF for maximum lot-to-lot consistency
- Truly Halogen Free (No intentionally added halogens)
- Leaves bright/shiny solder joints after reflow
- Low volatiles
- ANSI/J-STD-004B flux designator ORH0
- Can reflow in air or nitrogen environments



Physical Properties (typical)

Viscosity: 230 poise - Typical
Tested to J-STD-004B, IPC-TM-650, Method 2.4.34.4

Tackiness (grams-force): 70 Typical
Kester Method #1W-QC-3-04

Acid Number: 52 - Typical
Tested to J-STD-004B, IPC-TM-650, Method 2.3.13

Quantitative Halides: None
Tested to J-STD-004B, IPC TM-650 2.3.42

Quantitative Halogen: None
BS EN14582 (Halogen Analysis) O2 Bomb

pH 10% Solution: 4.1
Kester Method #1W-QC-G-15

Visual Appearance: Pale White
Kester Method #1W-QC-G-18

Reliability Properties (typical)

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

Copper Corrosion Test: High
Tested to J-STD-004B, IPC-TM-650, Method 2.6.15

Typical S.I.R., IPC: Pass
Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7

	<u>BLANK</u>	<u>CLEAN TSF-8808</u>
Day 1	$1.12 \times 10^{10} \Omega$	$6.04 \times 10^9 \Omega$
Day 4	$1.87 \times 10^{10} \Omega$	$8.49 \times 10^9 \Omega$
Day 7	$1.72 \times 10^{10} \Omega$	$9.50 \times 10^9 \Omega$

Typical E.C.M, IPC: Pass
Tested to J-STD-004B, IPC-TM-650, Method 2.6.14.1

	<u>CLEAN TSF-8808</u>
96 Hr	$6.34 \times 10^{11} \Omega$
500 Hr	$1.01 \times 10^{11} \Omega$

Application Notes

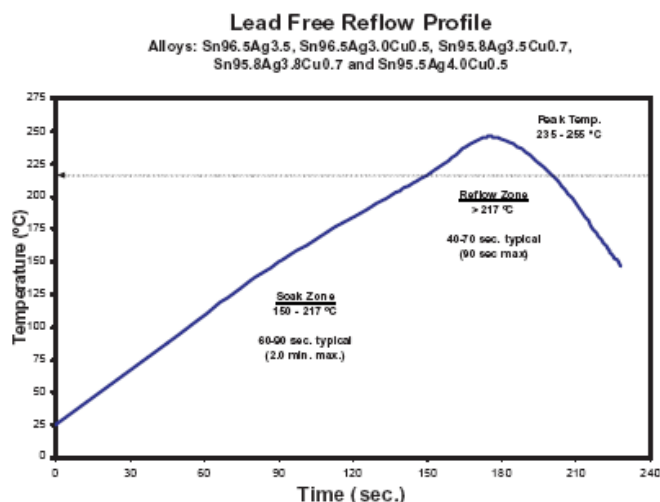
Standard Applications:

TSF8808 Tacky solder flux formulations are 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. Works on flip chip, chip scale package and flip chip bumping sites assemblies as a soldering flux.

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 TSF8808 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. TSF8808 will facilitate excellent wetting in an air reflow environment and can also be used in an inert (nitrogen) environment.



Cleaning:

TSF8808 residues are best removed using automated cleaning equipment (in-line or batch). A de-ionized water final rinse is recommended. Water temperatures should be around 60 ~ 80°C, 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:

TSF8808 should be kept at standard refrigeration conditions, 0-10°C (32-50°F). TSF8808 should be stabilized at room temperature prior to usage. Please contact Kester if you require additional advice with regard to storage and handling of this material. Shelf life is 6 months from date of manufacture when stored at refrigerated conditions 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.

Rev: 12Nov 2010

World Headquarters: 800 W. Thorndale Ave. Itasca, Illinois, USA

Phone: (+1) 847-297-1600 • **Email:** customerservice@kester.com • **Website:** www.kester.com

Asia Pacific Headquarters
500 Chai Chee Lane
Singapore 469024
(+65) 6449-1133
customerservice@kester.com.sg

European Headquarters
Ganghoferstrasse 45
D-82216 Gerlinden
Germany
(+49)8142-47850
customerservice@kester-eu.com

Japanese Headquarters
20-11 Yokokawa 2-Chome
Sumida-Ku
Tokyo 130-0003 Japan
(+81) 3-3624-5351
jpsales@kester.com.sg