TSF-8818HF

Halogen-Free, Water-Soluble Tacky Soldering Flux

DESCRIPTION

Kester TSF-8818HF is a water-soluble tacky soldering flux formula with a unique halogen-free activator system. TSF-8818HF is designed to have high tackiness to minimize component movement and misalignment during reflow, especially thin flip chip dice. TSF-8818HF is highly active even without halogens and can be used as a drop-in replacement for a variety of metallurgies including Sn-Pb eutectic and higher melting point lead-free alloys such as SnAg, SnCu, SnAgCu etc. Post-reflow residues are completely soluble in water and do not require cleaning additives.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Reflowable in air and nitrogen
- Residue easily removed with hot DI water (40 to 60 °C)
- Halogen-Free (no intentionally added halogens)
- Highly active and strong solderability performance
- Leaves bright shiny soldered joints after reflow
- ANSI/J-STD-004B flux anticipated ORHO

RoHS COMPLIANCE

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2011/65/EU for the stated banned substances.

PHYSICAL PROPERTIES

Viscosity (typical): 300-450 poise
Tested to J-STD-004B, IPC-TM-650, Method 2.4.34.4

Acid Number: 33
Tested to J-STD-004B, IPC-TM-650, Method 2.3.13

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

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

Quantitative Halides: None

RELIABILITY PROPERTIES

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

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

SIR, IPC (typical): Pass
Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7

	Blank	TSF-8818HF
Day 1	$9.51*10^{10}$ Ω	$3.09*10^{8}$ Ω
Day 4	$8.08*10^{10}$ Ω	$2.96*10^{8}$ Ω
Day 7	$8.50*10^{10}$ Ω	$2.93*10^{8}$ Ω

Electromigration, Bellcore (Typical): Pass
Tested to Bellcore GR-78-CORE

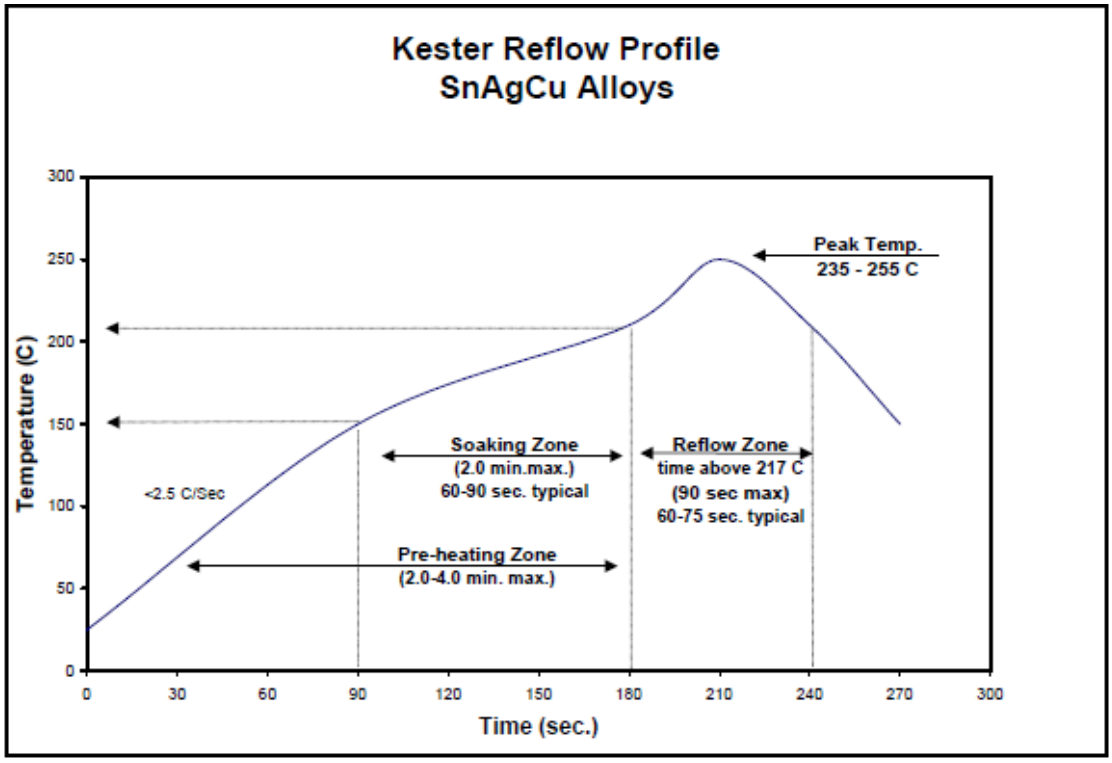
	Blank	TSF-8818HF
Day 4 (96h)	$8.39*10^{11}$	$3.12*10^{9}$
Day 21 (500h)	$6.08*10^{12}$	$9.28*10^{9}$

STANDARD APPLICATIONS

TSF-8818HF is designed for stencil/screen printing, pin transfer and dipping applications. Great for rework applications on all PCB packages of various electronic devices. Tacky soldering flux formulations can be used as tack and flux vehicles for soldering components to a Solid Solder Deposit (SSD), Ball Grid Array (BGA), Flip Chip, Chip Scale Packages (CSP) and Precision Pad Technology (PPT) board surfaces. Also excellent for rework applications on all PCB packages and as a soldering flux for Flip Chip bumping site assemblies.

RECOMMENDED REFLOW PROFILE

The recommended convection reflow profile for TSF-8818HF for Sn96.5Ag3.5, Sn99.3Cu0.7 or the various SnAgCu alloys is shown here. This profile is simply a guideline. As TSF-8818HF was engineered to be a versatile, robust interconnect material other reflow profiles will be effective. The optimal profile for a specific 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-8818HF will facilitate excellent wetting in an air reflow environment and can also be used in an inert (nitrogen) environment.



CLEANING

TSF-8818HF residues are best removed using automated cleaning equipment (in-line or batch). A deionized water final rinse is recommended. Water temperatures should be 40 to 60 °C with water pressure 45-65 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 JSTD-001 specifies a maximum of 1.56 micrograms/cm2 NaCl equivalent when tested in accordance with IPCTM-650, Test Method 2.3.25 or 2.3.26.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

STORAGE

TSF-8818HF should be kept at standard refrigeration conditions (0 to 10 °C, 32 to 50 °F). TSF-8818HF 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. Kester anticipates 6 months from date of manufacture when held at 25 °C.

CONTACT INFORMATION

To confirm this document is the most recent version, please contact techinfo@MacDermidAlpha.com

www.macdermidalpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588