

## BAF-1488HF

### Halogen-Free Water-Soluble Ball Attach Flux

#### Product Description

Kester BAF-1488HF is a water-soluble tacky soldering flux formula with next generation halogen-free activator system (no intentionally added halogens). BAF-1488HF is designed to have high tackiness to minimize component movement and misalignment during reflow. Although BAF-1488HF is halogen-free, it has high soldering activity and can be a drop in replacement for a variety of metallurgies; such as 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.

#### Performance Characteristics:

- Residue removal by hot DI water (~85°C)
- Truly Halogen-Free (no intentionally added halogens)
- Highly active
- Leaves bright/shiny solder joints after reflow
- ANSI/J-STD-004B flux anticipated ORH0
- Can reflow in air or nitrogen environments

#### RoHS Compliance

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2015/863 for the stated banned substances.

#### Physical Properties

**Viscosity:** 310 poise - Typical  
Tested to J-STD-004B, IPC-TM-650, Method 2.4.34.4

**Tackiness (grams-force):** 95 Typical  
Kester Method #1W-QC-3-04

**Acid Number:** 37 - 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

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

#### Reliability Properties

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

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

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

	Blank	Clean BAF-1488HF
Day 1	2.2*10 <sup>10</sup> Ω	1.6*10 <sup>9</sup> Ω
Day 4	1.9*10 <sup>10</sup> Ω	2.0*10 <sup>9</sup> Ω
Day 7	1.4*10 <sup>10</sup> Ω	2.3*10 <sup>9</sup> Ω

**ECM, IPC (typical):** Pass  
Tested to J-STD-004B, IPC-TM-650, Method 2.6.14.1

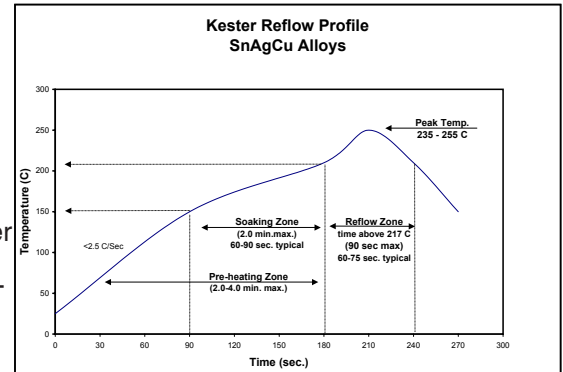
	Clean BAF-1488HF
96 hours	3.37*10 <sup>6</sup> Ω
596 hours	3.71*10 <sup>6</sup> Ω

## ✓ Standard Applications

BAF-1488HF Tacky solder flux formulations are designed for stencil/screen printing, pin transfer and dipping applications. Tacky solder flux formulations can be used as a tack and flux vehicle for soldering components to a solid solder deposit (SSD), Ball grid array (BGA) ball attach, Chip Scale packages or precision pad technology (PPT) board surfaces. Great for rework applications on all PCB packages.

## 🔄 Recommended Reflow Profile

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 BAF-1488HF 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. BAF-1488HF will facilitate excellent wetting in an air reflow environment and can also be used in an inert (nitrogen) environment.



## 🧼 Cleaning

BAF-1488HF residues are best removed using automated cleaning equipment (in-line or batch). A de-ionized water final rinse is recommended. Water temperatures should be  $\sim 80^{\circ}\text{C}$ , 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/cm<sup>2</sup> NaCl equivalent when tested in accordance with IPC-TM-650, Test Method 2.3.25 or 2.3.26.

## 📦 Storage, Handling and Shelf Life

BAF-1488HF should be kept at standard refrigeration conditions,  $0-10^{\circ}\text{C}$  ( $32-50^{\circ}\text{F}$ ). BAF-1488HF 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 study is still ongoing but we anticipate minimum 6 months shelf life from date of manufacture in room temperature and handled properly.

## ⚠️ Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet and warning label before using this product.