

# ALPHA<sup>®</sup> EF-6808HF-P

Halogen-Free, Low Solids, Alcohol Based No-Clean Liquid Soldering Flux

## DESCRIPTION

**ALPHA EF-6808HF-P** is a halogen-free, low solids, alcohol based, no-clean flux for use in a variety of automated and manual soldering applications. While effective on many types of assemblies, this flux has been found to exhibit excellent hole fill on assemblies with high-density components. **ALPHA EF-6808HF-P** is highly reliable and complies with all current halogen-free industry standards.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

## APPLICATION GUIDELINES

**Preparation:** In order to maintain consistent soldering performance and electrical reliability, it is important to begin the process with circuit boards and components that meet established requirements for solderability and ionic cleanliness. It is suggested that assemblers establish specifications on these items with their suppliers and that suppliers provide Certificates of Analysis with shipments and/or assemblers perform incoming inspection. A common specification for the ionic cleanliness of incoming boards and components is 10  $\mu\text{g}/\text{in}^2$  maximum, as measured by an Omegameter with heated solution.

Care should be taken in handling the circuit boards throughout the process. Boards should always be held at the edges. The use of clean, lint-free gloves is also recommended.

**Control:** ALPHA EF-6808HF-P flux should be applied by spray fluxing application. A uniform coating of flux is essential to successful soldering. When applying flux, it is important to run a series of tests to ensure that the flux is being applied uniformly, that it is penetrating from top to bottom of the board on all holes to be soldered and to make sure that excessive amounts of flux are not being applied. There are various methods for conducting these tests. Consult with your local Customer Technical Service Representative for more information. Depending on alloy and production, user could utilize below table for soldering reference.

**Residue Removal:** ALPHA EF-6808HF-P is a no-clean flux and the residues are designed to be left on the board. If desired, flux residues can be removed with ALPHA 2110 saponifier cleaner and with other commercially available solvent cleaners and saponifier cleaners.

**HALOGEN STATUS**

Halogen Standards			
Standard	Requirement	Test Method	Status
<b>IEC 61249-2-21</b>	Post soldering residues contain <990ppm each or total <1500ppm Br or Cl from flame retardant source	<b>TM EN 14582</b> Solids extraction per IPC TM 2.3.34	PASS
<b>JEITA ET-7304</b> Definition of Halogen Free Soldering Materials	<1000ppm Br,Cl, F in solder material solids		PASS
<b>JEDEC</b> A Guideline for Defining "Low Halogen" Electronic products	Post soldering residues contain <1000ppm Br or Cl from flame retardant source		PASS

**TECHNICAL DATA**

Physical Properties	Typical Values	Parameters/ Test Method	Typical Values
Appearance	Clear, Amber	Flash Point (T.C.C.)	17 °C
Solids Content, wt/wt	5%	Recommended Thinner	ALPHA 425
Specific Gravity @ 25 °C (77 °F)	0.793	Shelf Life	12 months
Acid Number (mg KOH/g)	21	IPC J-STD-004(B) Designation	ROLO

**CORROSION & ELECTRICAL TESTING**
**Corrosion Test**

Test		Requirement for ROL0	Results
IPC	Silver Chromate Paper IPC-TM 650 Test Method 2.3.33	No detection of halide	PASS
	Copper Mirror Test IPC-TM 650 Test Method 2.3.32	No complete removal of copper	PASS
	Copper Corrosion Test IPC-TM650 Test Method 2.6.15	No evidence of corrosion	PASS
JIS	Copper Corrosion Test JIS Z 3197-1999 Test Method 8.4.1	No evidence of corrosion	PASS

**IPC J-STD-004B Surface Insulation Resistance**

Test	Requirements ( $<1.0 \times 10^8$ allowed during initial 24 hrs.)	Results (min. of all measurements recorded)		
		< 24 Hrs	24 to 168 Hrs	Visual
"Comb-Down" Un-cleaned	$>1.0 \times 10^8 \Omega$	$3.7 \times 10^8 \Omega$	$6.9 \times 10^8 \Omega$	PASS
"Comb-Up" Un- cleaned	$>1.0 \times 10^8 \Omega$	$7.9 \times 10^8 \Omega$	$4.8 \times 10^9 \Omega$	PASS
Control Boards	$>1.0 \times 10^9 \Omega$	$5.9 \times 10^{10} \Omega$	$5.7 \times 10^{10} \Omega$	NA
IPC Test Condition (per J-STD-004B TM2.6.3.7): IPC B-24 coupons, 12V, 40 °C, 90% RH, measurements recorded @ 20min intervals				

**RECYCLING SERVICES**

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area.



**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.**

**CONTACT INFORMATION**

[www.macdermidalpha.com](http://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

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