

ALPHA[®] 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 µg/in² 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
IEC 61249-2-21	Post soldering residues contain <900ppm each or total <1500ppm Br or Cl from flame retardant source	TM EN 14582 Solids extraction per IPC TM 2.3.34	PASS
JEITA ET-7304 Definition of Halogen Free Soldering Materials	<1000ppm Br,Cl, F in solder material solids		PASS
JEDEC 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	ROL0

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

North America 140 Centennial Avenue Piscataway, NJ 08854 1.800.367.5460	Europe Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400	Asia 8/F., Two Sky Parc 51 Hung To Road Kwun Tong, Kowloon, Hong Kong, SAR China 852.2500.5365
---	---	--

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

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "(R)" and "TM" are registered trademarks or trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.