

ALPHA[®] FR8F

Wave Solder Flux

DESCRIPTION

ALPHA FR8F is a high-solid, rosin-bearing, no-clean, alcohol-based flux. It has excellent solderability in tin-lead wave soldering processes.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Thermally stable activators
- Reduces the surface tension between solder mask and solder
- Wide process window for superior performance in tin-lead alloys
- Excellent flux activity for defect-free soldering
- Can be applied via spraying or foaming

APPLICATION GUIDELINES

Preparation - 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 5µg/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. When switching from one flux to another, the use of a new foam stone is recommended (for foam fluxing).

Conveyors, fingers and pallets should be cleaned. Autoclean 40 and Bioact SC-10 Solvent Cleaner has been found to be very useful for these cleaning applications. When foam fluxing, do not use hot fixtures or pallets. Hot fixtures/pallets will deteriorate the foam head.

Flux Application – ALPHA FR8F is formulated to be applied by foam, wave or spray methods. When foam fluxing, the foam fluxer should be supplied with compressed air which is free of oil and water. Always keep the flux tank full. The flux level should be maintained 1 inch to 1-½ inches above the top of the stone. Adjust the air pressure to produce the optimum foam height with a fine, uniform foam head.

A uniform coating of flux is essential to successful soldering. When using the foam or wave method of application, an air knife is recommended after the fluxing operation. An air knife will help ensure that the flux is uniformly distributed across the board and will remove the excess flux. When spray fluxing, the uniformity of the coating can be visually checked by running a piece of cardboard over the spray fluxer or by processing a board-sized piece of tempered glass through the spray and then through the preheat section.

Flux Solids Control - If foam, wave, or rotary drum spray fluxing, the flux solids will need to be controlled via thinner addition to replace evaporative losses of the flux solvent. As with any flux with less than 5% solids content, specific gravity is not an effective measurement for assessing and controlling the solids content. Monitoring and controlling the acid number is recommended for maintaining the solids content. The acid number should be controlled to between 22 and 24. Alpha's Flux Solids Control Kit #3, a digital titrator, is suggested. Request Alpha's Reference Bulletin for details on the kit and titration procedure.

When operating the foam fluxer continuously, the acid number should be checked every two to four hours. Over time, debris and contaminants will accumulate in recirculating type flux applicators. For consistent soldering performance, dispose of spent flux every 40 hours of operation. After emptying the flux, the reservoir and foam stone should be thoroughly cleaned with flux thinner.

Residue Removal – ALPHA FR8F is a no-clean flux, and the residues are designed to be left on the board. However, if desired, ALPHA FR8F residues can be removed with ALPHA 2110 Saponifier.

TECHNICAL DATA

Properties	Typical Value	Properties	Typical Value
Appearance	Amber Solution	Acid Number	45.4 +/- 2
Solids Content, wt/wt	15.6%	IPC J-STD-04 Designation	ROL0
Specific Gravity @ 25 °C (77 °F)	0.819 to 0.8290	Shelf Life	548 Days
Flash Point	53 °F / 12 °C	Container Size Availability	1, 5, 55 Gallons

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 or [link here](#).



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 at MacdermidAlpha.com/assembly-solutions/knowledge-base.**

STORAGE

Flux is stable up to 548 days when stored in original unopened container at (6 to 43 °C).

CONTACT INFORMATION

To confirm this document is the most recent version, please contact Assembly@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

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