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TECHNICAL BULLETIN

ALPHA® 611 & 620 FLUXES

Mildly Activated Rosin Fluxes-Type RMA (611, 611F, 620, 620-25)

DESCRIPTION

ALPHA 611, 611F, 620 and 620-25 are homogenous solutions of pure water-white gum rosin in organic solvents, to which very effective non-ionic activating agents have been added. All the fluxes meet the requirements of MIL-F-14256D for Type RMA (Rosin Mildly Activated) liquid soldering fluxes.

ALPHA 620 and 620-25 provide superior fluxing strength compared to **ALPHA 611 and 611F**. This can be demonstrated by Meniscograph and solder spread tests.

ALPHA 611 and 611F are formulated for foam application. The high solids content of the fluxes insures effective coverage on dense plated-through-hole circuit boards.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Excellent solder spread allows for proper wetting on parts that can be difficult to solder
- Full bodied flux system with high activity allows for ease of reflow with most common profiles and on varying board types

PRODUCT INFORMATION

Rosin Type: ALPHA 611, 611F, 620 and 620-25 Fluxes contain a quality grade of water-white gum rosin that meets the requirements of Class A of Type 1, Grade WW of Federal Specification LLL-R-626. The high degree of purity of the rosin used insures consistent flux performance.

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APPLICATION GUIDELINES

All the fluxes are suitable for use on the following materials, provided the surfaces to be soldered are not excessively tarnished:

Cadmium (plate)	Platinum	Terne (plate)
Copper	Silver	Tin (hot dipped)
Gold	Solder (plate)	Tin (plate)
Palladium		

ALPHA 611F requires only low air pressure for a constant, adjustable head of fine bubble foam. Foaming, fluxing, and wetting properties are maintained even during continuous exposure to aeration. Evaporation losses are minimal.

Control: Because of the variety of foam-fluxing equipment available, uniform instructions regarding the use of ALPHA 611F are not feasible. However, optimum results usually can be obtained by following these rules:

1. Keep air pressure at the correct level. Too little pressure causes a slow rise; too high a pressure will lower the foam head. Be sure air lines contain traps for moisture and oils that could affect fluxing properties. Replace flux after 40 hours of use.

2. To compensate for evaporation losses during operation, adjust specific gravity with the proper thinner at least once a day.

3. The flux level covering the stone should be maintained by the addition of fresh flux to compensate for “drag-out” losses. A simple siphon arrangement is adequate.

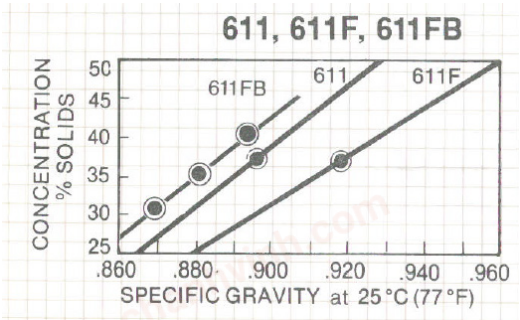
4. Fluxing equipment should be cleaned periodically to remove clippings and debris. The stone should be cleaned in the appropriate Alpha Thinner.

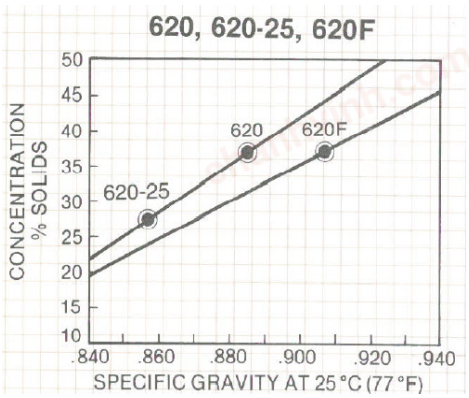
Thinning: It is important to maintain the proper flux solids content for consistent performance. When the specific gravity changes significantly due to evaporation during use, thinner must be added until the proper specific gravity is attained. See graphics below.

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Residue Removal: Flux residues are non-conductive and non-hygroscopic and are, therefore, considered to be non-corrosive in most applications. For effective removal of flux residues on critical electronic assemblies, any solvent cleaner or an aqueous cleaner such as ALPHA 2110 can be used.

TECHNICAL DATA

Typical Values	ALPHA 611	ALPHA 611F	ALPHA 620	ALPHA 620-25
Specific Gravity @ 25 °C (77 °F)	0.896 +/- 0.005	0.918 +/- 0.005	0.885 +/- 0.005	0.857 +/- 0.005
Pounds per Gallon @ 25 °C (77 °F)	7.45	7.64	7.36	7.14
Flash Point (T.C.C.)	17 °C (62 °F)	18 °C (65 °F)	17 °C (62 °F)	17 °C (62 °F)
Water Extract Resistivity (ohm-cm)	250,000	260,000	182,000	122,000
Recommended Thinner	ALPHA 425	ALPHA 425	ALPHA 425	ALPHA 425
Shelf Life (from Date of Mfg.)	720 days	540 days	540 days	720 days

These fluxes are amber liquids, have a solids content of 37% (except for ALPHA 620-25 with a 27% solids content), and are fungus resistant per MIL-E-5272.

AVAILABILITY

Packaging: ALPHA 611, 611F, 620 and 620-25 Fluxes are available in 1, 5, 55 gal containers.

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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**

CONTACT INFORMATION

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