

ALPHA[®] RMA9086

No Clean Solder Paste

DESCRIPTION

ALPHA RMA9086 is a modified rosin, no-clean solder paste with a long stencil life and high activity for excellent solderability. It is for applications that require high process tolerance during printing and reflow due varying board types and conditions. **ALPHA RMA9086** is designed for stencil application in surface mounting processes where post reflow cleaning is not required.

ALPHA RMA9086 is ideal for standard and fine pitch printing through stencil apertures as small as 0.008 inches (0.2 mm). It is especially suitable for fine pitch applications. Crisp, well defined print definitions are repeatably attainable on 0.016 inch (0.4mm) pitch.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Excellent solder spread for 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
- Long stencil life, results in less material changeout, usage and scrap due to long exposure times on the stencil or large numbers of part number changes
- Accurate depositions using quality ALPHA manufactured stencils result in more prints before stencil wiping and less down time

PRODUCT INFORMATION

<u>Alloys:</u>	63Sn37Pb, 62Sn36Pb2Ag
<u>Powder Size:</u>	Type 3
<u>Packaging Sizes:</u>	500 gram jars
<u>Lead Free:</u>	Complies with RoHS Directive 2011/65/EU
<u>Halogen Content:</u>	Zero Halogen

TECHNICAL DATA

Category	Results	Procedures/Remarks
Chemical Properties		
Ag Chromate Test	PASS	IPC J-STD-004
Copper Mirror Test	PASS; L-M	IPC J-STD-004
Electrical Properties		
IPC SIR (7 days, uncleaned)	PASS	IPC J-STD-004
Bellcore SIR (4 days, uncleaned)	PASS	Bellcore TR-NWT-000078
Bellcore Electromigration	PASS	Bellcore TR-NWT-000078
Physical Properties		
Reflowed Residue	~4.9% ww, tack free after reflow	
Stencil Life	>8 hours	
Tack Force	PASS; > 2.0 g/mmE2 @ 6 hours, 50% RH (refer to Fig. 2)	IPC J-STD-005
Slump	Suitable for fine pitch printing	IPC-TM-650

PROCESSING GUIDELINES

Storage & Handling	Printing	Reflow	Cleaning
<ul style="list-style-type: none"> Refrigerate to guarantee stability @ 0 to 10 °C (32 to 50 °F). When stored in these conditions, shelf life of paste is 6 months. Paste can be stored for 4 days at room temperature up to 25 °C (77 °F) prior to use. When refrigerated, warm up paste container to room temperature for up to 4 hrs. Paste must be 19 °C (66 °F) before processing. Verify paste temperature with a thermometer to ensure paste is at 19 °C (66 °F) or greater before set up of printer. Do not remove worked paste from stencil and mix with unused paste in jar. This will alter the rheology of unused paste. These are starting recommendations and all process settings should be reviewed independently. 	<p>Stencil: Recommend Alpha Assembly Solution's laser cut stencils @ 0.006 inch thick for 0.020 mil pitch (.008 inch thick for 0.025 inch pitch) or Alpha Assembly Solutions manufactured chemically etched stencil.</p> <p>Stencil design is subject to many process variables. Contact your local ALPHA stencil site for advice.</p> <p>Squeegee: Metal (recommended) or 90 durometer polyurethane.</p> <p>Pressure: 1 to 2.5 lb/in successfully tested at Alpha</p> <p>Speed: 0.5 to 2.0 inch/s (20-200mm/s) tested at Alpha</p> <p>Paste Roll: 0.4 to 0.6 in (1.0 to 1.5 cm) diameter and make additions when roll reaches 0.2 inch (0.5cm) diameter (min). Max roll size will depend upon blade.</p>	<p>Atmosphere: Clean-dry air or nitrogen atmosphere.</p> <p>Profile: The following settings have been determined to give optimal result but other settings may give excellent results as well.</p> <p>Ramp Up: 60 to 120 °C/min to 120 to 160 °C</p> <p>Dwell: 120 to 160 °C; 1 to 1.5 min</p> <p>Ramp @ 60°-120°C/min to</p> <p>Peak: 210 to 230 °C</p> <p>TAL: >183 °C – 0.5 to 1 min</p> <p>Ramp Down: 90 to 120 °C/min to room temperature.</p> <p>Ensure solder is frozen at exit of last heated zone to avoid disturbed joint defects.</p>	<p>Although designed as a no clean flux system, ALPHA RMA9086 residues can be effectively cleaned 10% ALPHA 2110 saponifier with DI water.</p> <p>Water washing will not turn residues cloudy.</p> <p>Misprints and stencil cleaning may be done with ALPHA SM-110 cleaners.</p>

REFLOW PROFILES

Figure 1: Reflow Profile Envelope

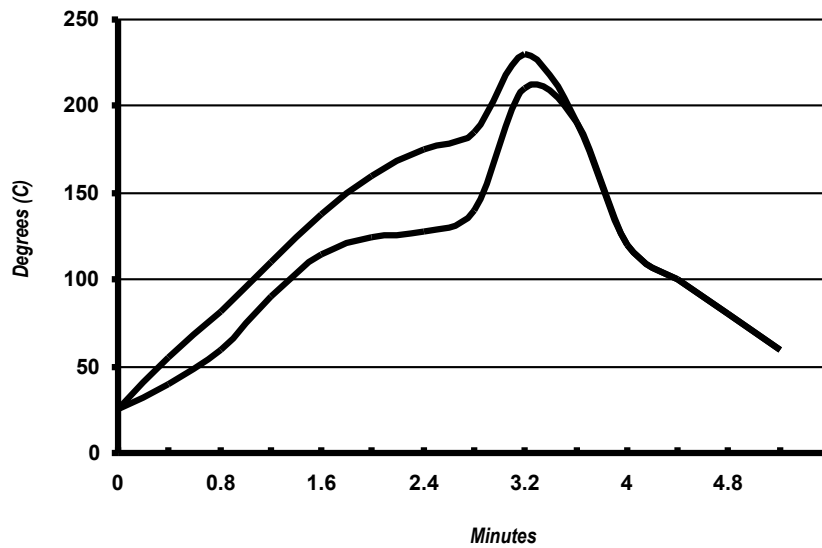
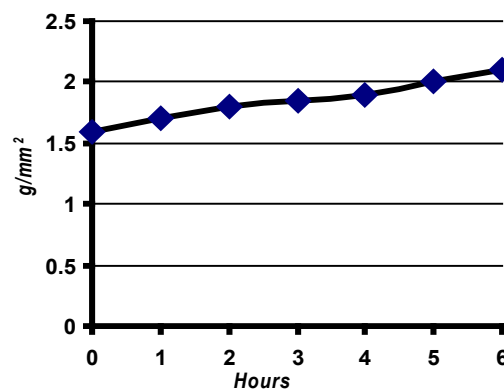


Figure 2: Tack vs. Time



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

ALPHA RMA9086 is shipped in thermally controlled boxes and should be stored refrigerated upon receipt at 32 to 50 °F (9 to 10 °C). This will be sufficient to maintain a nominal shelf life of six months. ALPHA RMA9086 should be permitted to reach room temperature before unsealing its package prior to use.

CONTACT INFORMATION

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

www.macdermidalpha.com

<p>North America 109 Corporate Blvd. South Plainfield, NJ 07080, USA 800.367.5460</p>	<p>Europe Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 01483.758400</p>	<p>Asia 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100</p>
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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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