ALPHA® OL107 PASTE FLUX

No-Clean Paste Flux

DESCRIPTION

ALPHA OL107 is an active, no-clean flux. It is formulated with a proprietary mixture of organic activators. Which act to reduce the surface tension between solder masks and the solder; thereby, dramatically increasing the tendency for improved solder joint formation and 0% non-wet performance. The formulation of **ALPHA OL107** is also designed to be more thermally stable, thereby, increasing soldering performance for PoP top and bottom package attach and fine pitch flip chip applications.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Good thermal stability, tack strength and high activity for excellent yield rates
- IPC-J-STD-004 compliant for long term electrical reliability

APPLICATION GUIDELINES

- Primary application method for ALPHA OL107 is dipping
- Can also be used in stencil printing or pin transfer applications

TECHNICAL DATA

Category	Results	Procedure/Remarks
Chemical Properties		
Corrosivity	Copper Mirror Test (L, passed) Copper corrosion, passed	IPC J-STD-004, MIL-F-14256F, JIS Z 3197
Halide Content	Silver Chromate Paper Test (passed)	IPC-TM-650 2.3.33, BCR TR-NWT-000078
Electrical Properties		
Moisturized insulation Resistivity (JIS 3197/3284/J-std-004)	> 1 x 10^{11} at 168Hr (L) > 5 x 10^{8} at 168Hr (L)	40 °C/ 95%RH/bias48V/168Hrs 85 °C /85%RH/bias48V/168Hrs
Physical Properties		
Appearance	Pale Yellow	Visual
Tack Strength (gf)	>90gf Typical	IPC TM-650 2.4.44
Viscosity; Malcom Viscosity (@ 5 rpm)	20 Pa.S (typical)	

PROCESSING GUIDELINES

Cleaning

ALPHA OL107 is a no-clean flux and the residues are designed to remain. If desired, ALPHA OL107 residues can be removed using a Saponifier such as Alpha 2110 Saponifier or ALPHA SM-110. Spray pressures of 35 to 60 psi are sufficient to remove all residues.

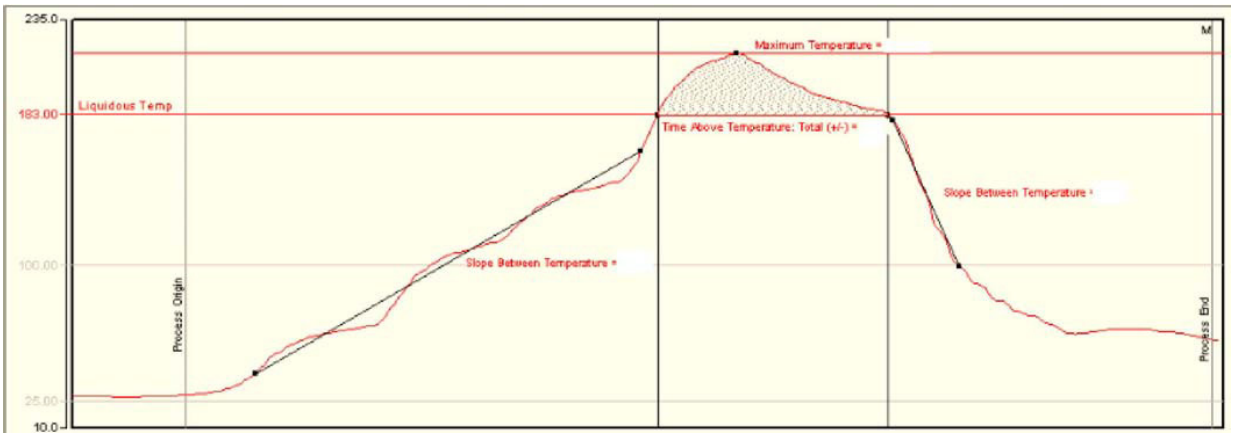
REFLOW PROFILES

Reflow can be accomplished in an air or nitrogen controlled atmosphere, with nitrogen and O2 levels of 300 ppm or below typically providing significantly improved results.

The below table lists general reflow profile parameters. Given the uniform furnace loading and low mass associated with typical semiconductor packages, a soak or dwell at 150 to 180 ºC is usually not required, especially for the Pb free bearing alloys due to the slower ramp rate typically employed.

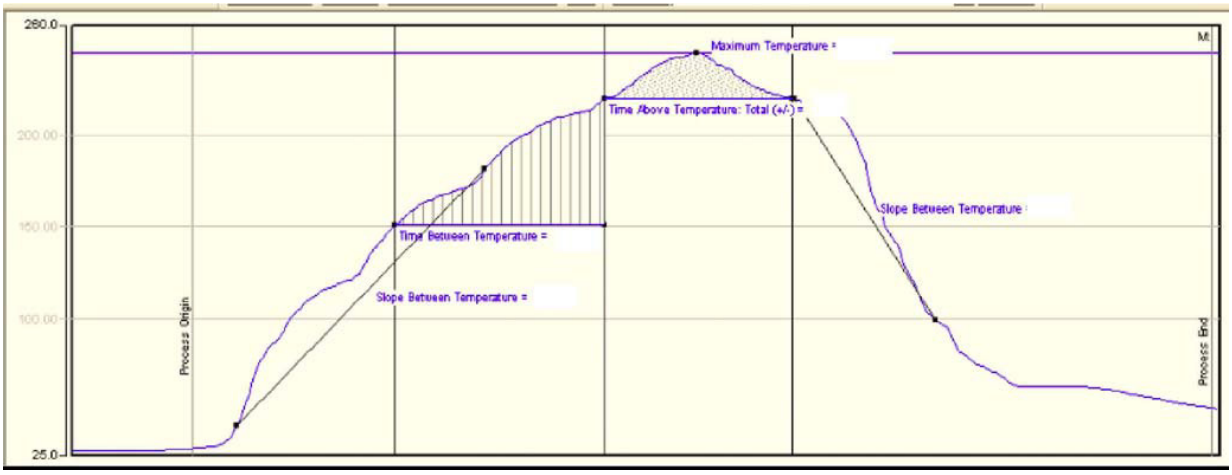
Examples of typical reflow profiles:

SnPb Eutectic Reflow Profile



- Ramp-Up Rate : 0.9 to 1.1 ºC/sec (Ramp to Peak)
- Peak Temperature : 205 to 225 ºC
- Dwell Time (TAL) : 45 to 75 sec
- Ramp Down (Cool Down Rate) : >-3 ºC/sec

Lead Free Reflow Profile



- Ramp-Up Rate : 1.2 to 1.5 ºC/sec (Ramp to Peak)
- Peak Temperature : 240 to 245 ºC
- Dwell Time (TAL) : 60 to 90 second
- Ramp Down (Cool Down Rate) : >-3 ºC/second

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

The paste flux should be stored in sealed containers and need not be refrigerated. The shelf life of unopened containers at room temperature (19 to 25 °C / 66 to 77 °F) is up to 6 months from the manufacturing date. If the material has been exposed to lower temperatures, the containers should be allowed to reach room temperature before opening to prevent moisture condensation from ambient air onto the flux.

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