

ALPHA[®] OM-550 PASTE FLUX

Low Temperature, Pin Testable, RoHS Compliant Paste Flux for Assemblies with Temperature Sensitive Substrates, Components, & High Warpage Chips

DESCRIPTION

ALPHA OM-550 is a new low temperature chemistry which supports non-eutectic low temperature alloys reflow or rework in a low temperature process. When used together with Alpha's HRL1 solder alloy, assemblies exhibit similar drop shock and thermal cycling performance to SAC305 joints.

All components used with ALPHA OM-550 HRL1 must be lead-free to eliminate the formation of tin/lead/bismuth intermetallic which has a melting point under 100 °C.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Low reflow peak temperature ~175 °C (~185 to 195 °C for mixed alloy process)
- Reduction of warpage up to 99% (component and board/substrate) vs SAC process
- Excellent NWO Performance
- Excellent HIP Performance
- Improves BGA mechanical reliability compared to other low-temp alloy
- Less residue spread
- Good voiding performance on various packages (BGA, MLF, DPAK, LGA),
- Reflowable in air or nitrogen
- Provides efficiencies in both energy and cost

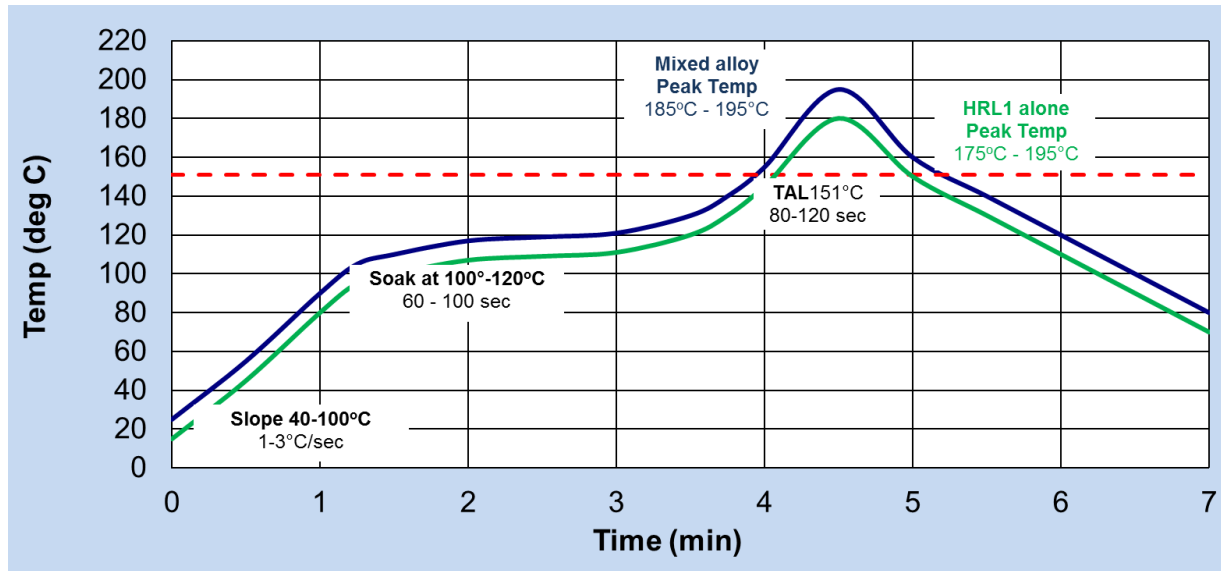
PRODUCT INFORMATION

<u>Packaging Sizes:</u>	30cc syringe
<u>Lead Free:</u>	RoHS Directive EU/2015/863; amending Annex II of 2011/65/EU
<u>Halogen Content:</u>	Zero Halogen

TECHNICAL DATA

Category	Results	Procedure/Remarks
Chemical Properties		
Activity Level	ROLO	IPC J-STD-004B
Halide Content	Pass	IPC J-STD-004B
Fluoride Spot Test	Pass	JIS-Z-3197-1999 8.1.4.2.4
Halogen Test	Pass	Zero Halogen
Ag Chromate Test	Pass	IPC J-STD-004B
	Pass	JIS-Z-3197-1999 8.1.4.2.3
Copper Mirror Test	Pass	IPC J-STD-004B
	Pass	JIS-Z-3197-1999 8.4.2
Copper Corrosion Test	Pass	IPC J-STD-004B
	Pass	JIS-Z-3197-1999 8.4.1
Electrical Properties		
SIR (7 days, 40 °C/90%RH, 12 V bias)	Pass	IPC-TM-650 2.6.3.7 (J-STD-004B)
Bellcore SIR	Pass	Bellcore GR-78 Core Issue1, September 1997 (Section 13)
Electromigration	Pass	IPC-TM-650 (2.6.14.1) as per J-STD-0 04B
Bellcore Electromigration	Pass	Bellcore GR78-CORE (Pass=final > initial/10)
Physical Properties		
Color	Clear, Colorless Flux Residue	
Dryness Test (Talc)	Pass	JIS-Z-3197-1999 8.5.1

REFLOW PROFILES



Suggested Reflow Profile for HRL1 alloy in mixed alloy process and HRL1 alone.

- * Note 1: With lower peak temperatures, TAL needs to be adjusted/extended in order to form a proper joint. Fine tuning is needed based on specific board design in order to achieve maximum performance. For the above profile a 0.4 to 0.6 paste volume to sphere volume ratio is recommended.
- ** Note 2: 185 to 195 °C peak reflow applies to mixed solder joints.

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 flux should be stored in sealed containers and need not be refrigerated. Shelf life of unopened containers is 6 months from the manufacturing date. If the material has been chilled, the container should be allowed to reach room temperature before opening in order 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

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