

ALPHA[®] OL-237HF

Zero Halogen, Lead-Free Solder Paste

DESCRIPTION

ALPHA OL-237HF is designed and suitable for SMT and Die Attach processes. **ALPHA OL-237HF** can be applied by dispensing or stencil printing.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Zero Halogen; no halogen intentionally added
- Designed for N₂ reflow atmosphere
- High consistency in viscosity and thixotropy over a period enables stable printing and reduces wastage as a result
- Compatible with both no-clean and clean processes. Flux residues can be easily cleaned off with various solvents available in the market
- Use of unique heat-resistant resin and engineering of surfactant system enables a solvent to clean off the flux residues easily

PRODUCT INFORMATION

<u>Alloys:</u>	SAC305 (96.5%Sn/3.0%Ag/0.5%Cu)
<u>Powder Size:</u>	Type 4 (20 to 38µm), Type 5 (15 to 25µm)
<u>Packaging Sizes:</u>	500 gram jars, 6" & 12" cartridges
<u>Lead Free:</u>	RoHS Directive EU/2015/863; amending Annex II of 2011/65/EU

NOTE 1: For other alloys, powder size and packaging sizes, contact your local Alpha Sales Office.

APPLICATION GUIDELINES

ALPHA OM-237HF can be applied by dispensing or stencil printing. The recommended working environment is at 23 to 25 °C and 40 to 60% relative humidity.

ALPHA OL-237HF is compatible with no-clean and clean processes. If cleaning process is preferred, ALPHA SM-110E is recommended for the removal of flux residues of ALPHA OL-237HF.

HALOGEN STATUS

Halogen Standards			
Standard	Requirement	Test Method	Status
JEITA ET-7304 <i>Definition of Halogen Free Soldering Materials</i>	< 1000 ppm Br, Cl, F in solder material solids	TM EN 14582	Pass
IEC 612249-2-21	Post Soldering Residues contain < 900 ppm each or total of < 1500 ppm Br or Cl from flame retardant source		Pass
JEDEC <i>A Guideline for Defining "Low Halogen" Electronics</i>	Post soldering residues contain < 1000 ppm Br or Cl from flame retardant source		Pass
Zero Halogen: No halogenated compounds have been intentionally added to this product			

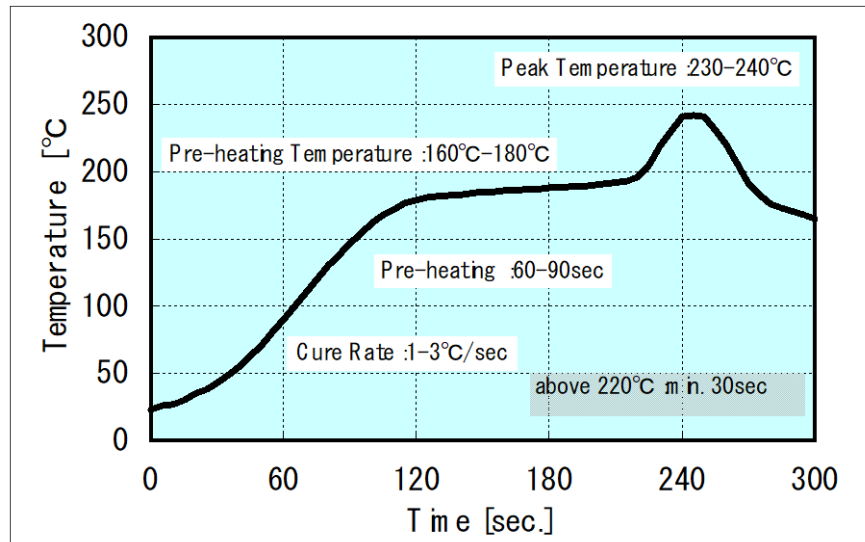
TECHNICAL DATA

Category	Results	Procedure/Remarks
Chemical Properties		
Activity Level	ROLO	IPC J-STD-004
Halide Content	Halide free (by titration).	IPC J-STD-004B
Ag Chromate Test	Pass ; No discoloration	JIS-Z-3197 8.1.4.2.3
Copper Mirror Test	Pass ; No corrosion	JIS-Z-3197 8.4.2
Corrosive Effect on Cu Plate	Pass ; No corrosion	JIS-Z-3284 Appendix 4

Category	Results	Procedure/Remarks
Electrical Properties		
IPC SIR (7 days, 85°C/85%RH, -48V bias)	Pass; >1 x 10 ⁹ ohm	IPC J-STD-004 (Pass ≥ 1 x 10 ⁸ ohm)
Bellcore SIR (96hrs, 35°C/85%RH,-48V bias)	Pass; >2 x 10 ¹⁰ ohm	Bellcore GR78-CORE (IPC-B-25 B) (Pass >2 x 10 ¹⁰ ohm)
JIS Electromigration (1000 hours @ 85°C/85%RH 48V)	Pass; >1 x 10 ⁹ ohm	JIS Z 3284 Appendix 14
Physical Properties		
Wetting Effect & De-wetting Test	Copper Plate: Class 2	JIS Z 3284, Annex 10
Tackiness Test	>100gf (after 24hrs)	JIS Z 3284, Annex 9
Viscosity	89% metal load for Type 5 powder and 88.5% metal load for Type 4 powder with target viscosity 1500 Poise	Malcom Spiral Viscometer; JIS
Slump-in-heating Test	0.3mm	JIS Z 3284, Annex 8
Solderball Test	Preferable	JIS Z 3284, Annex 11

REFLOW PROFILES

Figure 1: Typical Reflow Profile for SAC305 Alloy



NOTE 2: The processing guidelines recommended and typical reflow profiles presented were tested in the lab with acceptable performance. Optimization to each board application should still be carried out by users to ensure best results.

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

ALPHA OL-237HF should be stored in a refrigerator upon receipt at 0 to 10 °C (32 to 50 °F). Shelf life is 4 months from manufacturing date when stored at this condition.

ALPHA OL-237HF should be permitted to reach room temperature before unsealing its package prior to use. When refrigerated, warm up paste container to room temperature for up to 4 hours. Paste must be @ 19 °C (66 °C) before processing. Verify paste temperature with a thermometer to ensure paste is at 19 °C (66 °C) or greater before setup.

Do not remove worked paste from stencil and mix with unused paste in jar. This will alter the rheology of unused paste.

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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