ALPHA® OM-340-SL PASTE FLUX

No-Clean, Rework and BGA Flux

DESCRIPTION

ALPHA OM-340-SL is a no-clean flux engineered to be used in the placement and reflow of lead-free solders for BGA attach processes. Before reflow, the flux provides sufficient tack to hold the BGA in place. After reflow, the residue is clear and colorless. This paste flux can also be used in the rework of components.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- **Wide Reflow Profile Window:** allows best quality solderability of complicated, high density PWB assemblies in both air and nitrogen reflow, using ramp and soak profiles, as high as 175 to 185 °C
- **Excellent Flux Residue Cosmetics:** after reflow soldering, even using long/high thermal soaking, without charring or burning
- **Halogen Content:** Zero-Halogen, no halogen intentionally added
- **Residue:** Excellent Pin Testing property and Passed JIS Copper Corrosion Test
- **Safe and Environmentally Friendly:** Materials comply with RoHS and Halogen-free requirements, as well as TSCA & EINECS

APPLICATION GUIDELINES

ALPHA OM-340-SL may be applied by screen printing or pin transfer (substrate) or doctor blade / dip coating (package). It can also be dispensed.

Reflow can be accomplished in clean-dry air or nitrogen-controlled atmosphere. Straight ramp profile is at 0.7 °C/sec and 1.3 °C/sec ramp, 45 to 60 TAL. Soak profiles at 155 to 175 °C, 60 to 100sec have been determined to give optimal results. If required, good results are also achievable with high soak temperature profiles of 175 to 185 °C for 60sec. Typical peak temperature is 235 to 245 °C.

Note 1: Keeping the peak temperature below 241 °C may reduce the number and size of BGA and QFN voids.

Note 2: Refer to component and board supplier data for thermal properties at elevated temperatures. Lower peak temperatures require longer TAL for improved joint cosmetics.

Note 3: These are profiles that were tested in the lab with acceptable reflow and coalescence performance on SAC alloys, optimization to each board application should still be carried out by users to ensure best results.

ALPHA OM-340-SL residue is designed to remain on the board after reflow and no cleaning is required. If reflowed residue cleaning is required, Vigon A 201 (In-line Cleaning), Vigon A250 (Batch Cleaning) or Vigon US (Ultrasonic Cleaning) are recommended. Vigon is a registered trademark of Zestron.

HALOGEN STATUS

ALPHA OM-340-SL is a halogen-free product & passes the standards listed in the table below:

Halogen Standards			
Standard	**Requirement**	**Test Method**	**Status**
JEITA ET-7304 Definition of Halogen Free Soldering Materials	< 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 A Guideline for Defining "Low Halogen" Electronics	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	ROL0	IPC J-STD-004B
Halide Content	Halide free (by titration)	IPC J-STD-004B
Fluoride Spot Test	**Pass**	JIS-Z-3197-1999 8.1.4.2.4

Category	Results	Procedure/Remarks
Halogen Test	**Pass**, Halogen-free	EN14582, by oxygen bomb combustion, Non-detectable (ND) at < 50 ppm
Corrosion	**Pass**	IPC Cu Mirror, Cu Corrosion and Ag Chromate Tests
Electrical Properties		
Water Extract Resistivity	1.3 X 10^5 Ohm-cm	JIS-Z-3197-1999 8.1.1
SIR (7 days, 40 °C/90%RH, 12 V bias)	**Pass**	IPC J-STD-004B TM-650 2.6.3.7 (Pass ≥ 1 x 10^8ohm)
JIS Electromigration (1000 hours @ 85 °C/85%RH 48V)	**Pass**	JIS-Z-3197-1999 8.5.4
Electromigration (Bellcore 500 hrs @ 65 °C/85%RH 10V)	**Pass**	Bellcore GR78 CORE (Pass=final > initial/10)
Physical Properties		
Appearance	Smooth, Off-White to Pale Yellow Paste	
Viscosity (10rpm at 25ºC by Malcom Viscometer)	140 to 310 Poise (typical)	
Acid Number (mgKOH/g)	150.00 to 180.00 mgKOH/g (typical)	
Moisture Content	Typically, 0.70% max (w/w)	
Fineness of Grind (um)	<10 µm (typical)	

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