

ALPHA® OA1303

Water Soluble Spray Flux for Wafer Bump Applications

DESCRIPTION

ALPHA OA1303 water soluble spray flux engineered to be used in the wafer bump reform process for a variety of tin lead eutectic, lead-free, Solder cap copper pillar and high lead bump alloys. ALPHA OA1303 is a halogen-free material with highly differentiable performance advantages in the areas of spin/spray coating processes.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Excellent activity allows for superior wetting, maximizing wetting and yields
- Best adapted to bump forming process of lead-free SAC alloys
- Excellent cleanability; residues are easily cleaned with DI water
- Suitable for various wafer sizes up to 300mm
- Halogen free formulation

PHYSICAL AND CHEMICAL PROPERTIES

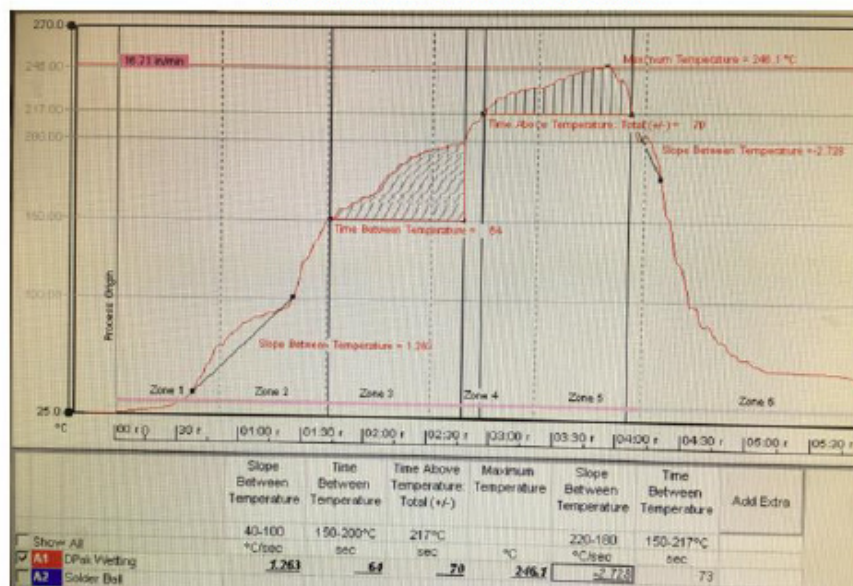
Category	Results	Procedures/Remarks
Chemical Properties		
Activity Level (J-STD Classification)	ORH0	IPC J-STD-004
Appearance	Clear Colorless Liquid	Visual
Acid Number MgKOH/g	~60	ASP-WI-QC-001FS
Viscosity; Brookfield Viscometer (centipoise)	~2000 typical	

REFLOW

Reflow can be accomplished in an air or nitrogen controlled atmosphere, with nitrogen providing improved results.

The initial ramp rate should be at 30 to 60 °C per minute to a peak temperature of 230 to 245 °C (typical lead-free alloys), 210 to 225 °C (typical lead bearing alloys), or 340 to 360 °C (typical high lead alloys). The time over the alloy's liquidus (183 °C for Sn63Pb37, 217 to 227 °C for most SAC alloys, and 302 to 315 °C for most high lead alloys) should be 45 to 90 seconds. Cooling rate should be > 3 °C per second to room temperature.

LeadFree Reflow Profile



- Ramp-up rate (40 – 100°C) : 1.2 ~ 1.5 °C/sec
- Pre-Soak Time (time between 150° – 200°C) : 60 ~ 70 secs
- Dwell time (TAL) @ 217°C : 65 ~ 75 secs
- Peak Temperature : 243 ~ 247 °C
- Cooling Rate : 2.5 ~ 5.0 °C/sec

Zone	Temperature Settings (°C)
1	95
2	170
3	200
4	240
5	250
Belt Speed: 21 in/min	
O2 ppm: 100ppm	

RESIDUE REMOVAL

Cleaning using deionized water at temperatures of 50 to 60 °C, without the use of a saponifier, achieves excellent results. Spray pressures of 35 to 60 psi are sufficient to remove all residues.

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.**

STORAGE

This flux should be stored in sealed containers at 15 to 25°C and should NOT be refrigerated. Shelf life of unopened containers is nominally 12 months. If a container 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

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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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