

ALPHA® POP-707

Package on Package Bga Flux

DESCRIPTION

No Clean, Lead Free, Paste Flux for Sub-Assembly Dip Applications

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

APPLICATION GUIDELINES

The flux has been successfully evaluated on both Fuji and Siemens dip application equipment. An example of the application is shown on second page.

TECHNICAL DATA

Flux Properties

Attribute	Result
Appearance	Smooth, white to off-white paste
Viscosity (Spiral/Malcom)	Typically, 430 Poise @10 rpm @ 25 °C
<u>Tack strength (per IPC J-STD-004)</u> Initial	10.6 grams / sq. mm, typical
6 hr. @ 50% RH	8.3 grams / sq. mm, typical
24 hr. @ 50% RH	8.8 grams / sq. mm, typical
Fineness of Grind	<10 µm
Acid Number (mg KOH/g)	140 to 170 (1 st batch = 166.9)
Corrosivity	Passes IPC Cu mirror, Cu corrosion
Halide Content	Halide free (ROL0 per IPC J-STD-004)
Moisture Content	< 1.0 % (w/w)
Specific Gravity	1.02 grams / cc
J-STD-004 SIR (pass > 10 ⁸)	4.2 x 10 ⁹ Ohms, 1 Day, un-cleaned
J-STD-004 SIR (pass > 10 ⁸)	6.8 x 10 ⁹ Ohms, 4 Days, un-cleaned
J-STD-004 SIR (pass > 10 ⁸)	8.9 x 10 ⁹ Ohms, 7 Days, un-cleaned
BELLCORE SIR (pass > 10 ¹¹)	7.3 x 10 ¹¹ Ohms, 1 Day, un-cleaned
BELLCORE SIR (pass > 10 ¹¹)	3.5 x 10 ¹¹ Ohms, 4 days, un-cleaned

Attribute	Result
Electromigration (500 hours) (BELLCORE)	1.6 x 10 ¹¹ Ohms, 96 hours 4.0 x 10 ¹¹ Ohms, 500 hours (pass: final > init /10)

PROCESSING GUIDELINES

Cleaning

Although designed as a no clean flux system, the reflowed residue may be cleaned with BIOACT SC10E or BIOACT SC30. Production stencils or pin transfer equipment can be cleaned with BIOACT SC10.

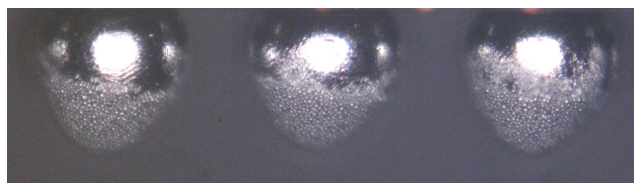
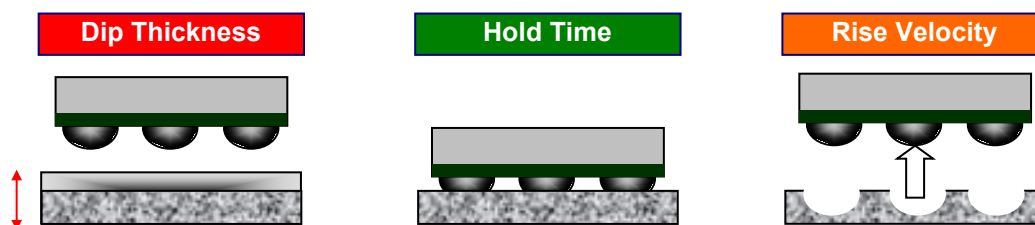
REFLOW PROFILES

Reflow can be accomplished in dry air or nitrogen controlled atmosphere. The initial ramp rate should be 1 to 2 °C per second. If necessary, a dwell of 1 to 2 minutes at 130 to 160 °C is acceptable. Following this equilibrating period is a ramp of 60 to 120 °C to a peak temperature of 235 to 260 °C depending upon alloy. The time over alloy liquidus should be 45 - 90 seconds. Cooling rate should be 3 to 7 °C per second to room temperature.

TRANSFER PROPERTY

Transfer weight depends on bump transfer parameters such as dip thickness, hold time and rise velocity. Optimal parameter should be determined according to your bump size and pitch.

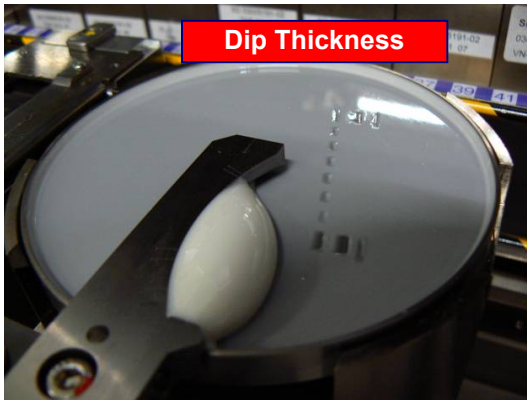
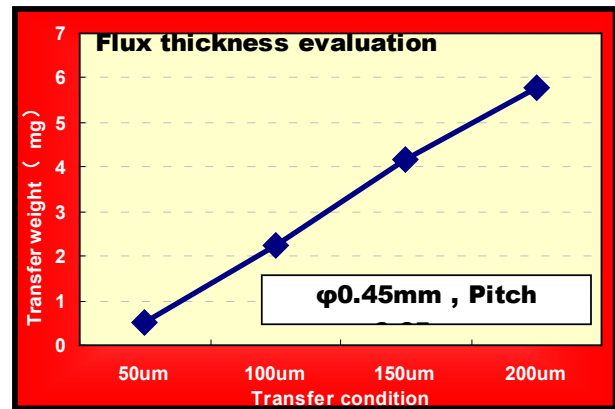
Generally, transfer amounts depend on flux thickness. Please adjust the flux thickness according to your bump diameter.



Flux Application



Flux Dispensed in Rotating Application Tray



Doctor Blade Regulates Flux Height

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 nominally 6 months. 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**

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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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