

# ALPHA<sup>®</sup> OM-5300 BGA Paste Flux

## No-Clean BGA Flux

### DESCRIPTION

This no-clean flux is 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. The flux is the same material used to produce ALPHA OM-5300 solder paste.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### APPLICATION GUIDELINES

The flux may be applied by screen printing or pin transfer (substrate) or doctor blade / dip coating (package).

#### Cleaning

Although designed as a no-clean flux system, the reflowed residue may be cleaned with BIOACT SC10ETM or BIOACT SC30TM. Production stencils or pin transfer equipment can be cleaned with BIOACT SC-10TM.

### TECHNICAL DATA

Item	Typical Values						
Appearance	Smooth, white to off-white paste						
Viscosity (Spiral/Malcom 10 RPM)	Typically, 140 to 200 Poise @ 25 °C						
Tack Strength (per IPC J-STD-004)	<table border="0"> <tr> <td style="text-align: right;">Initial</td> <td>6.5 grams/ sq mm</td> </tr> <tr> <td style="text-align: right;">6 Hr @ 50% RH</td> <td>6.2 grams/ sq mm</td> </tr> <tr> <td style="text-align: right;">24 Hr @ 50% RH</td> <td>6.2 grams/ sq mm</td> </tr> </table>	Initial	6.5 grams/ sq mm	6 Hr @ 50% RH	6.2 grams/ sq mm	24 Hr @ 50% RH	6.2 grams/ sq mm
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6 Hr @ 50% RH	6.2 grams/ sq mm						
24 Hr @ 50% RH	6.2 grams/ sq mm						
Fineness of Grind	<10 µm						
Acid Number (mg KOH/g)	125 to 155						
Corrosivity	Passes IPC Cu mirror, Cu corrosion						

Item	Typical Values
Halide Content	Halide free (ROL-0 per IPC J-STD-004)
Moisture Content	<0.75% (w/w)
J-STD-004 SIR (pass > 10 <sup>8</sup> )	4.2 x 10 <sup>9</sup> Ohms, 1 Day, un-cleaned
J-STD-004 SIR (pass > 10 <sup>8</sup> )	6.8 x 10 <sup>9</sup> Ohms, 4 Days, un-cleaned
J-STD-004 SIR (pass > 10 <sup>8</sup> )	8.9 x 10 <sup>9</sup> Ohms, 7 Days, un-cleaned
BELLCORE SIR (pass > 10 <sup>11</sup> )	7.3 x 10 <sup>11</sup> Ohms, 1 Day, un-cleaned
BELLCORE SIR (pass > 10 <sup>11</sup> )	3.5 x 10 <sup>11</sup> Ohms, 4 Days, un-cleaned
Electromigration (500 hours)	1.6 x 10 <sup>11</sup> Ohms, 96 Hours
(BELLCORE)	4.0 x 10 <sup>11</sup> Ohms, 500 Hours (pass:final > init/10)

## 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 215 to 225 °C depending upon alloy. The time over alloy liquidus should be 45 to 90 seconds. Cooling rate should be 3 to 7 °C per second to room temperature.

## 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](http://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 12 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](mailto:Assembly@MacDermidAlpha.com)**

[www.macdermidalpha.com](http://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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