

ALPHA[®] CVP-520 BLACK PASTE FLUX

Lead-Free Capable, Zero-Halogen, ROL0, No-Clean Paste Flux

DESCRIPTION

ALPHA CVP-520 Black is a no-clean paste flux designed to enable low temperature surface mount assembly technology. The flux residue from **ALPHA CVP-520 Black** is clear and provides excellent electrical resistivity, exceeding industry standards. This paste flux can also be used in the rework of components. The presence of the black dye in the flux aids with the detection by inspection systems in customer applications.

ALPHA CVP-520 Black paste flux is available in 30 cc & 10 cc syringes.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

APPLICATION GUIDELINES

Cleaning

Although designed as a no-clean flux system, the reflowed residue may be cleaned with ALPHA BC-2200 aqueous cleaner. For solvent cleaning, agitation for 5 minutes is recommended using ALPHA SM-110E or Kyzen Micronox MX2501. Production stencils or pin transfer equipment can be cleaned with ALPHA SM-110E, ALPHA SM-440 and ALPHA BC-2200.

TECHNICAL DATA

Category	Results
Chemical Properties	
Flux Classification	ROL0 per IPC J-STD-004
Halide Content	Halide-free
Corrosivity	Passes IPC Cu Mirror, Cu Corrosion tests
Electrical Properties	
IPC SIR (J-STD-004; Pass > 10 ⁸)	3.6 x 10 ¹¹ Ohms, 7 days, uncleaned
Bellcore SIR (GR-78 CORE Issue 1; Pass > 10 ¹¹)	1.1 x 10 ¹¹ Ohms, 4 days, uncleaned
Bellcore Electromigration (GR-78 CORE Issue 1; 500 hours)	8.4 x 10 ¹¹ Ohms, Initial; 1.4 x 10 ¹² Ohms, 500 hours (Pass: final > initial /10)
JIS Electromigration (1000 hours)	1.0 x 10 ¹⁰ Ohms (Pass: > 1.0 x 10 ⁸ Ohm)

Category	Results
Physical Properties (Typical)	
Appearance	Smooth & Creamy Black Paste
Viscosity (Spiral/Malcom, JIS)	200 to 400 Poise @ 25 °C (10 RPM)
Fineness of Grind	<10 µm
Acid Number	100 to 115 mg KOH/g
Moisture Content	0.4 % max (w/w)

Tack Test (IPC) @ 50%RH (Rhesca TAC-2)	
Time (hr.)	Tack Force (gram/mm ²)
0	11.71
6	10.57
24	7.18

Tack strength is determined per IPC J-STD-004

REFLOW PROFILES

Reflow can be accomplished in dry air or nitrogen controlled atmosphere. As necessary, a straight ramp profile with a rate of 1 to 2 °C per second up to a peak temperature of 155 to 180 °C can be used. If needed, a dwell of 1 to 2 minutes at 100 to 125 °C is acceptable if the application requires it. Following this equilibrating period is a ramp to a peak temperature of 155 to 180 °C. The time above alloy liquidus (TAL) should be 30 to 90 seconds. Cooling rate should be -3 to -8 °C per second to room temperature.

Note: These are profiles that were tested in the lab with acceptable reflow and coalescence 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

The paste flux should be stored in sealed containers and need not be refrigerated. Shelf life of unopened containers is 6 months. If the material has been chilled, the container should be allowed to reach room temperature before opening 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

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