

KESTER® R500 SOLDER PASTE

Dispensable Water Soluble Solder Paste

DESCRIPTION

Kester R500 Solder Paste is a water soluble solder paste formula specifically designed as a consistent dot dispensing paste for automated dispense equipment. This solder paste exhibits excellent wetting characteristics in a wide range of profiles. The activator package in this formula is extremely aggressive. It is active enough to remove tenacious oxide layers or to solder to OSP coated boards. R500 maintains its activity and tackiness characteristics for up to 8 hours.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Excellent dispensing characteristics using 21 gauge needles and Type 3 powder
- Capable of dispensing rate of 4 dots per second
- Leaves bright/shiny solder joints after reflow
- Scrap is reduced due to minimal paste clogging and separation
- Residues easily removed with DI water
- Classified as ORM0 per J-STD-004

Standard Applications:

- 86% Metal – Syringe Dispensing

TECHNICAL DATA

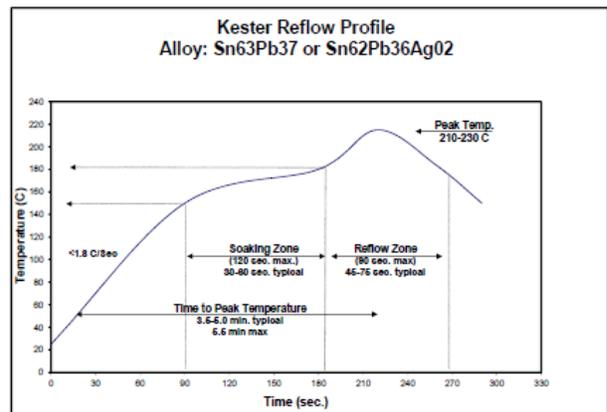
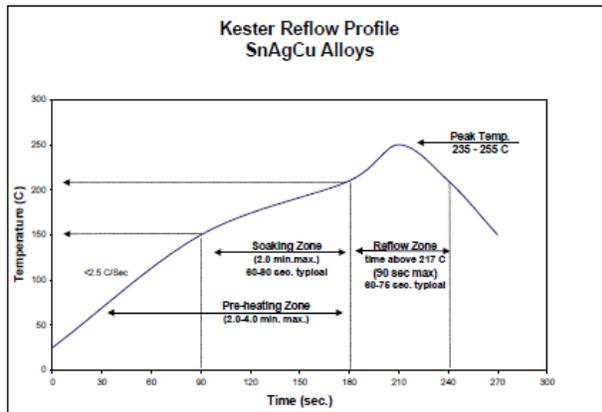
Category	Results	Procedure/Remarks
Physical Properties (Data given for Sn63Pb37 86% metal, -325 +500 mesh)		
Viscosity (Typical)	1000 poise	Malcom Viscometer @ 10 rpm and 25 °C
Initial Tackiness (Typical)	45 grams	J-STD-005, IPC-TM-650, Method 2.4.44
Slump Test	Pass	J-STD-005, IPC-TM-650, Method 2.4.35
Solder Ball Test	Preferred	J-STD-005, IPC-TM-650, Method 2.4.43

Category	Results	Procedure/Remarks												
Wetting Test	Pass	J-STD-005, IPC-TM-650, Method 2.4.45												
Reliability Properties														
Copper Mirror Corrosion	Low	J-STD-004, IPC-TM-650, Method 2.3.32												
Corrosion Test	Low	J-STD-004, IPC-TM-650, Method 2.6.15												
Silver Chromate	Pass	J-STD-004, IPC-TM-650, Method 2.3.33												
Chloride and Bromides	None Detected	J-STD-004, IPC-TM-650, Method 2.3.35												
Fluorides by Spot Test	Pass	J-STD-004, IPC-TM-650, Method 2.3.35.1												
Surface Insulation Resistance (SIR) IPC (Typical)	Pass	J-STD-004, IPC-TM-650, Method 2.6.3.3												
		<table border="1"> <thead> <tr> <th></th> <th>Blank</th> <th>R500</th> </tr> </thead> <tbody> <tr> <td>Day 1</td> <td>$1.9 \times 10^{10} \Omega$</td> <td>$1.4 \times 10^8 \Omega$</td> </tr> <tr> <td>Day 4</td> <td>$1.1 \times 10^{10} \Omega$</td> <td>$2.0 \times 10^8 \Omega$</td> </tr> <tr> <td>Day 7</td> <td>$8.3 \times 10^9 \Omega$</td> <td>$8.3 \times 10^9 \Omega$</td> </tr> </tbody> </table>		Blank	R500	Day 1	$1.9 \times 10^{10} \Omega$	$1.4 \times 10^8 \Omega$	Day 4	$1.1 \times 10^{10} \Omega$	$2.0 \times 10^8 \Omega$	Day 7	$8.3 \times 10^9 \Omega$	$8.3 \times 10^9 \Omega$
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PROCESSING GUIDELINES

Recommended Reflow Profile

The recommended reflow profiles for R500 made with the SAC305 and Sn63Pb37 alloys are shown here. This profile is simply a guideline. Since R500 is a highly active, water soluble solder paste, it can solder effectively over a wide range of profiles. Your optimal profile may be different from the one shown based on your oven, board and mix of defects. Please contact your local Technical Support if you need additional profiling advice.



Cleaning

R500 residues are best removed using automated cleaning equipment (in-line or batch). Deionized water is recommended for the final rinse. Water temperatures should be 49 to 60 °C (120 to 140 °F). Kester’s 5768 Bio-Kleen® saponifier can also be used in a 1 to 2% ratio for aqueous cleaning systems.

Storage, Handling and Shelf Life

Refrigeration is the recommended optimum storage condition for solder paste to maintain consistent viscosity, reflow characteristics, and overall performance. R500 should be stabilized at room temperature prior to dispensing. R500 should be kept at standard refrigeration temperatures, 0 to 10 °C (32 to 50 °F). Please contact Kester if you require additional advice with regard to storage and handling of this material. Shelf life for both SAC305 and Sn63Pb37 alloys is 6 months from date of manufacture and held at 0 to 10 °C (32 to 50 °F).

AVAILABILITY

Kester R500 is available in SAC305 and Sn63Pb37 alloys with Type 3 powder.

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.



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.**

CONTACT INFORMATION

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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