

SAC305 4-5M097

No Clean Halogen Free Solder Paste



Product Description

Asahi SAC305, Sn96.5Ag3.0Cu0.5 solder alloy was developed to have better wettability in re-flow soldering process. This alloy is designed to be substituted for tin/lead alloys in all electronics assembly soldering operations. Some adjustment to equipment settings will be required but the resulting soldered joints will perform as well as tin/lead solder joints in most respects.

SAC305 4-5M097 solder paste exhibits long stencil life and tack time, while still delivering exceptional solderability. It possesses excellent printing characteristics to a wide variety of metallization with an anti-slump property.

Application

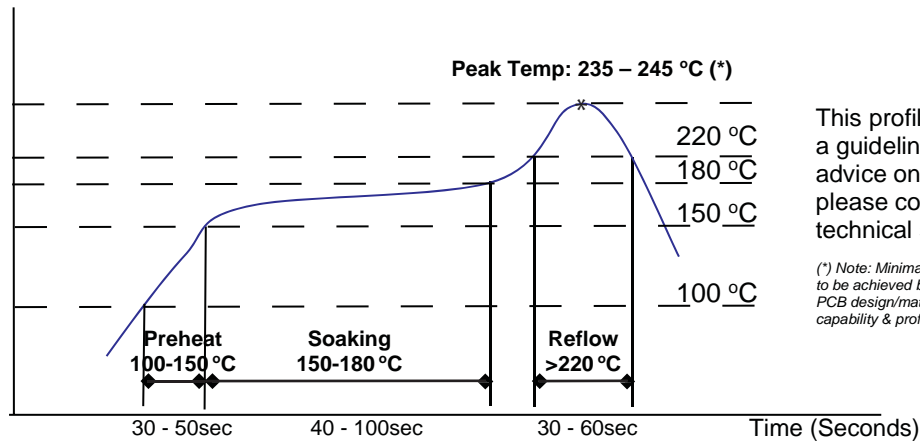
SAC305 4-5M097 is designed for standard stencil printing. The printing speed can be set at 25 - 100 mm/sec. Its optimum printing condition is 23 to 25 °C and humidity of 50 to 65 %RH, with at least 24 hours stencil life of continuous printing (process dependant). This paste could be used on the 0.4mm pitch pattern. Adjustment may be necessary based on specific process requirement.

Specification

Item	Result
Alloy	
Alloy Composition	Sn96.5/Ag3.0/Cu0.5
Melting Temperature	217 - 220 °C
<small>Differential Scanning Calorimetry</small>	
Powder Size	20 – 38 μm, Type IV, Mesh Size -400 / +635
<small>IPC TM-650 2.2.14</small>	
Paste Flux	
Flux Content	11.5 +/- 1.0 wt%
<small>IPC-TM-650 2.2.20</small>	
Halide Content	Not detected
<small>JIS Z 3197 8.1.4.2.1</small>	
Halogen Content	Not detected
<small>BS EN 14582</small>	
Water Extract	> 1 x 10 ⁵ Ω-cm
Resistivity	
<small>JIS Z 3197 8.1.1</small>	
Copper Mirror Test	Classified as “L”, Pass
<small>IPC-TM-650 2.3.32</small>	
Copper Corrosion Test	Pass
<small>IPC-TM-650 2.6.15</small>	
Flux Activity Classification	ROLO
<small>IPC J-STD-004</small>	
Solder Paste	
Viscosity (2 nd day)	
<small>IPC-TM-650 2.4.34</small>	750 ± 250 kcPs
<small>JIS Z 3284 Annex 6</small>	165 ± 55 Pa.s
Thixotropic Index	0.40- 0.70
<small>JIS Z 3284 Annex 6</small>	
Tackiness	> 24hrs (> 100gf)
<small>JIS Z 3284 Annex 9</small>	
Surface Insulation Resistance	> 1 x 10 ⁸ Ω, Pass
<small>(85°C, 85%RH, 168hrs)</small>	
<small>IPC-TM-650 2.6.3.3</small>	
Electromigration	Pass
<small>(85°C, 88.5%RH, 596hrs)</small>	
<small>IPC-TM-650 2.6.14.1</small>	
Slump Test	Pass
<small>JIS Z 3284 Annex 7, Annex 8</small>	
Solder Ball Test	Pass
<small>IPC-TM-650 2.4.43</small>	
<small>JIS Z 3284 Annex 11</small>	
Residue Dryness Test	Pass
<small>JIS Z 3284 Annex 12</small>	

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Recommended Reflow Profile



This profile is simply a guideline. For more advice on profiling, please contact Asahi technical support.

(*) Note: Minimal peak temperature to be achieved but is dependent on PCB design/material and process capability & profiling in accuracy.

Residue Removal

Residue removal is not needed as this is a no clean solder paste. For assemblies that require cleaning, call Asahi technical support.

Storage, Handling and Shelf Life

Solder paste has to be thawed to room temperature (~25°C) prior using to avoid condensation. Paste left on the stencil should not be put back into the container together with the unused paste. It is preferable not to re-use solder paste left on the stencil after printing.

Generally the solder paste could last for 6 months from date of manufacturing, if kept under proper condition and temperature of 0 - 10 °C.

Health and Safety

Do not handle the paste with your bare hand. Use proper tool when handling the paste. If the paste touches the skin, wash thoroughly with soap and water. For more information, please refer to Material Safety Data Sheet.

Packaging

Packaging Type	Weight	Packaging Part
Jar	500g	E
	250g	F
Cartridge	1000g	D
Cassette	800g	I
Easipak	150g	J
	50g	H

Solder Paste Product Order System:

Alloy Type Powder Size Formula Type - Packaging Part

Example: SAC305 4-5M097-E

DISCLAIMER OF LIABILITY

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