

## V347 5-5LF138

No Clean Solder Paste



### Product Description

Singapore Asahi has developed the Viromet\* Series Lead Free alloys. Asahi's No Clean Viromet Lead Free Solder Paste V347 5-5LF138, with a composition Sn/Ag/Cu/In is formulated for ease of drop-in replacement for conventional SnPb solders in reflow soldering. With a short reflow cycle time, use of this solder paste minimizes damage to components and board materials. Besides, N<sub>2</sub> environment is not needed.

Asahi's No Clean Viromet Lead Free Solder Paste V347 5-5LF138 exhibits long stencil life and tack time, while still delivering exceptional solderability. V347 5-5LF138 is also specifically designed to reduce voiding in Ball Grid Array (BGA) solder connections. It is resistant in extremes of temperature and relative humidity.

### Application

V347 5-5LF138 is designed for standard stencil printing. The printing speed can be set at 25 - 40 mm/sec. Its optimum printing condition is 23 to 25 °C and humidity of 15 to 70 %RH, with at least 24 hours stencil life of continuous printing (process dependant). This paste could be used on the 0.3mm pitch pattern. Adjustment may be necessary based on specific process requirement.

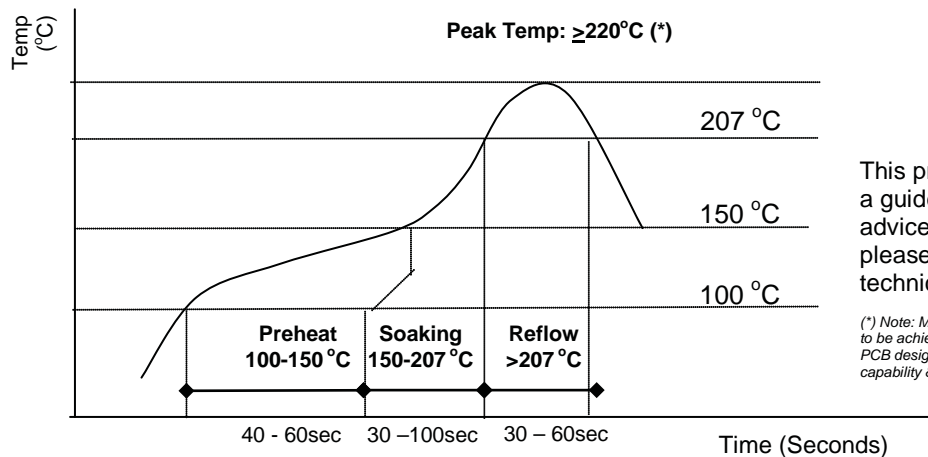
\* World Patent No. 03/006200 A1

\* US Patent No. 5,985,212; 6,176,947; 6,843,862

### Specification

Item	Result
<b>Alloy</b>	
Alloy Composition	Sn/Ag4.1/Cu0.5/In7.0
Melting Temperature	202 - 207 °C
<small>Differential Scanning Calorimetry</small>	
Powder Size	15 - 30 μm, Type V
<small>IPC TM-650 2.2.14</small>	
<b>Paste Flux</b>	
Flux Content	12.0 +/- 0.5 wt%
<small>IPC-TM-650 2.2.20</small>	
Halide Content	Not added
<small>JIS Z 3197 8.1.4.2.1</small>	
Water Extract Resistivity	> 1 x 10 <sup>5</sup> Ω-cm
<small>JIS Z 3197 8.1.1</small>	
Copper Mirror Test	Classified as "L", Pass
<small>IPC-TM-650 2.3.32</small>	
<small>JIS Z 3197 8.4.2</small>	
Copper Corrosion Test	Pass
<small>IPC-TM-650 2.6.15</small>	
<small>JIS Z 3197 8.4.1</small>	
Flux Activity Classification	ROLO
<small>IPC J-STD-004</small>	
<b>Solder Paste</b>	
Viscosity	750 +/- 15% kcPs
<small>IPC-TM-650 2.4.34</small>	
<small>JIS Z 3284 Annex 6</small>	
Thixotropic Index	220 +/- 20 Pa.s
<small>JIS Z 3284 Annex 6</small>	
Tackiness	0.45 +/- 0.05
<small>JIS Z 3284 Annex 9</small>	
Surface Insulation Resistance	> 24hrs (> 100gf)
<small>(85°C, 85%RH, 168hrs)</small>	
<small>IPC-TM-650 2.6.3.3</small>	
<small>JIS Z 3197 8.5.3</small>	
Electromigration	> 1 x 10 <sup>8</sup> Ω, Pass
<small>(85°C, 88.5%RH, 596hrs)</small>	
<small>IPC-TM-650 2.6.14.1</small>	
Slump Test	> 1 x 10 <sup>11</sup> Ω, 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>	

## 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 3 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 Coding System:

Alloy Type      Powder Size      -      Series Type      Formula Type      -      Packaging Part

Example:      V347 5-5 LF138-E

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