

## NihonHanda 118 Solder Paste

No-Clean, Lead-Free, ROL0 & Air Reflow Capable Solder Paste

### DESCRIPTION

118 flux is developed to pursue higher wettability and heat-resistance and allows excellent solderability at both air and N2 reflow for SAC305 and other alloys. The solder paste made from 118 flux features to avoid preheating slump. Thanks to less deformation before and after preheating, it is most adequate for high density mounting.

### FEATURES & BENEFITS

- Excellent wettability even at air reflow
- High printability available with micro chip components such as QFP in 0.4r
- Less solder bridges nor capillary balls thanks to less heat slump
- Features high tack force such as 100gf or more at 24 hours after printing
- Available with in-circuit test thanks to fictile flux re
- High reliability flux without copper plate corrosion nor migration and available non-cleaning
- High preservation stability without quality degradation for 6 months stored at 0 to 15 deg.C

### PRODUCT INFORMATION

Alloys :	PF305 : Sn-3.0Ag-0.5Cu
Powder Size :	Type 3 (25~45µm) · Type 4 (20~38µm)
Packaging Sizes :	500 gram jars
Lead Free :	Complies with RoHS Directive 2011/65/EU
NOTE :	For other powder size and packaging sizes, contact our office.

### SAFETY

While the NihonHanda 118 flux system is not considered toxic, its use in typical reflow will generate a small amount of reaction and decomposition vapors.

These vapors should be adequately exhausted from the work area. Consult the SDS for additional safety information.

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TECHINCAL DATA		
CATEGORY	RESULTS	PROCEDURES/REMARKS
<b>CHEMICAL PROPERTIES</b>		
Activity Level	ROL0	IPC J-STD-004B
Halide Content	0,03%	JIS Z 3197_2012 8.1.4.2.1
Fluoride Spot Test	Pass	JIS Z 3197_2012 8.1.4.2.4
Silver Chromate Test	Pass	JIS Z 3197_2012 8.1.4.2.3
Copper Mirror Test	Pass	JIS Z 3197_2012 8.4.2
Copper Corrosion Test	Pass	JIS Z 3197_2012 8.4.1
<b>ELECTRICAL PROPERTIES</b>		
SIR : 40°C90%RH	100GΩ or more	JIS Z 3197_2012 8.5.3
SIR : 85°C85%RH	100MΩ or more	JIS Z 3197_2012 8.5.3
JIS Electrto migration (1000 hours@85°C85%RH 48V)	No migration	JIS Z 3197_2012 8.5.4
<b>PHYSICAL PROPERTIES</b>		
Flux Content	11,5%	JIS Z 3197_2012 8.1.2
Viscosity	220 Pa · s (Type3, 4)	JIS Z 3284-3_2014 4.3
Color	Clear, Colorless Flux Residue	
Tack Force	100gf or more at 24 hours after printing	JIS Z 3284-3_2014 4.5
Solder Ball	Class 1~2	JIS Z 3284-4_2014 4.2
Spread	75%以上	JIS Z 3197_2012 8.3.1.1
Cold/Printing Slump	No bridge for 0.3 mm space	JIS Z 3284-3_2014 4.3
Hot Slump	No bridge for 0.3 mm space	JIS Z 3284-3_2014 4.3

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### PROCESSING GUIDELINES

STORAGE & HANDLING	PRINTING	REFLOW (Refer to Fig.1)	CLEANING
<p>1. Refrigerate to guarantee stability@ 0-15°C. When stored under these conditions, the shelf life of PF305-118HO, TO is 6 months.</p> <p>2. Please open the lid after the temperature of the paste completely becomes same as the room temperature. It usually takes one hour after taking out the product from a refrigerator. If you open the lid while the paste is still cold, dew will condense on the surface of the solder paste and it will cause the quality deterioration.</p> <p>3. Please avoid the intentional warming as much as possible. In case you force to warm the paste, please be careful enough not to raise the temperature too high. If it is above the room temperature, it causes inferior quality.</p> <p>4. The viscosity of solder paste changes according to the temperature. The higher the temperature is, the lower becomes the viscosity. So please use the paste under the specific condition of temperature. Meanwhile, please be careful that the paste absorbs moisture and becomes likely to deteriorate when the humidity is high. As for usage circumstances, we recommend conditions of 25±3°C and humidity of 70% RH or lower.</p>	<ul style="list-style-type: none"> <li>●Stencil: Recommend to use metal masks processed with additive or laser manufacturing. 0.1 to 0.15mm mask thickness is adequate for printing 0.4 to 0.5mm pitch.</li> <li>●Squeegee: Recommend to use metal squeegee.</li> <li>●Printing pressure: 0.1 to 0.3N/mm is recommended.</li> <li>●Printing speed: 20 to 80mm/sec is recommended.</li> <li>●Plate releasing speed: 0 to 5mm/sec is recommended.</li> </ul>	<p>Reflow atmosphere: Reflow atmosphere: Both air and N2 reflow are available. 1000ppm or less is recommended for oxygen concentration.</p> <p>Profile:</p> <ul style="list-style-type: none"> <li>●Please set ramp rate at to 3 deg.C/sec. till preheating area.</li> <li>●Recommend 150 to 190 deg.C for 60 to 150 seconds for preheating. Inappropriate preheating conditions cause insufficient soldering.</li> <li>●Please take 30 to 60 seconds at 220 deg.C or more. The longest time is more recommended to avoid void occurrence.</li> <li>●Peak temperature is recommended for 240 to 260 deg.C. Higher temperature is generally recommended so far as surrounding components can be endured.</li> </ul>	<ul style="list-style-type: none"> <li>●For the appropriate detergents for flux residues, please inquire to TecnoLab.</li> <li>●Please wash out solder paste with isopropyl alcohol from stencils or squeegees.</li> </ul>

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## RECOMMENDED HEATING REFLOW PROFILE

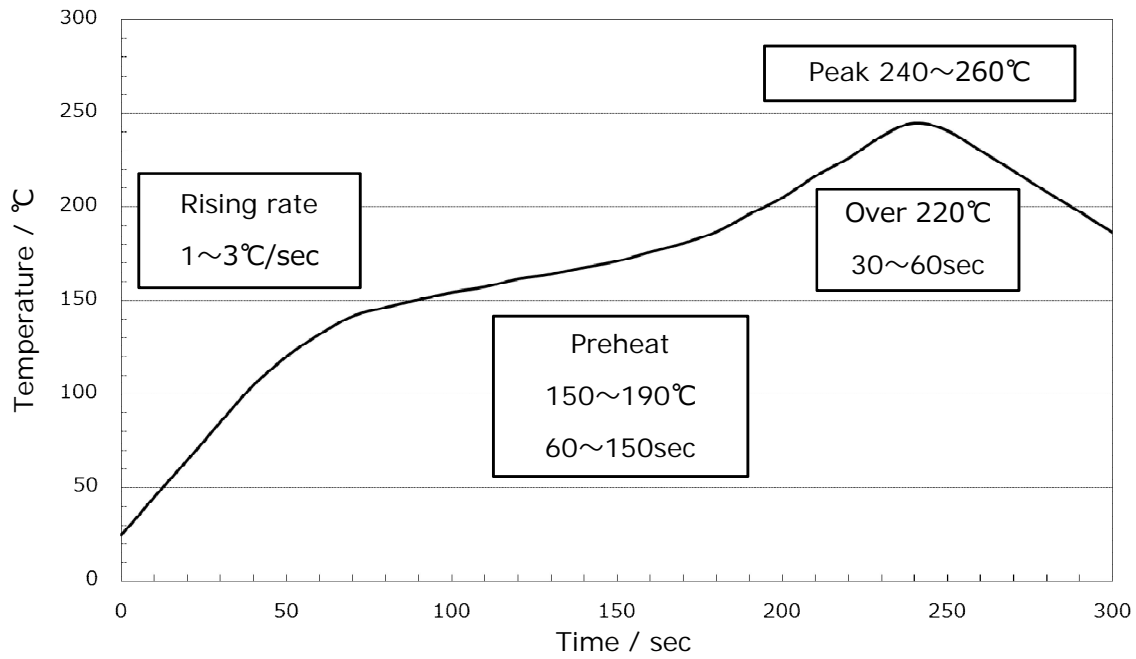


Fig.1. Recommended Heating Reflow Profile

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### CONTACT INFORMATION

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