

FORMOSA Water-Soluble Solder Paste

Model: PF606-PWF

Rev. 2013/07/26 Ver. 1

— Specification —

Item	Specification	Standard
Appearance	Gray paste w/o visible foreign and clusters	
Alloy composition	Sn/Ag3.0/Cu0.5/x	JIS-Z-3282
Melting Point	217~219 °C	
Particle Size	(Type 3) +45μm < 1% , -20μm < 10% (Type 4) +38μm < 1% , -20μm < 10%	IPC-TM-650,2.2.14
Powder Shape	Spherical	
Flux Content	11.5 ± 1.0wt%	JIS-Z-3197, 8.1.2
Viscosity	200 ± 30 Pa · s (25±1°C, 10rpm, Malcom)	JIS-Z-3284, Annex 6
Flux Type	ORM1	J-STD-004A

— Test Content —

Test Item	Test Result	Test Method
Copper Plate Corrosion Test	Pass	JIS-Z-3197, 8.4.1
Spread Test	> 75%	JIS-Z-3197, 8.3.1.1
Copper Mirror Test	Pass	IPC-TM-650, 2.3.32
Viscosity Test(25 °C, 10rpm)	200 ± 30 Pa · s	JIS-Z-3284. Annex 6
Tackiness Test (gf)	> 130 (8hr)	JIS-Z-3284. Annex 9
Slump Test	Pass	JIS-Z-3284. Annex 7, 8
Solder Ball Test	Pass	JIS-Z-3284. Annex 11

— Reliability Test —

S.I.R. Test ▲	> 1×10 ⁹ Ω, Pass	IPC-TM-650, 2.6.3.3
Electro Migration Test ◆	Pass	IPC-TM-650, 2.6.14.1

▲ Test Conditions: (after cleaned with plain water) 85 °C, 85% RH for 168 hrs

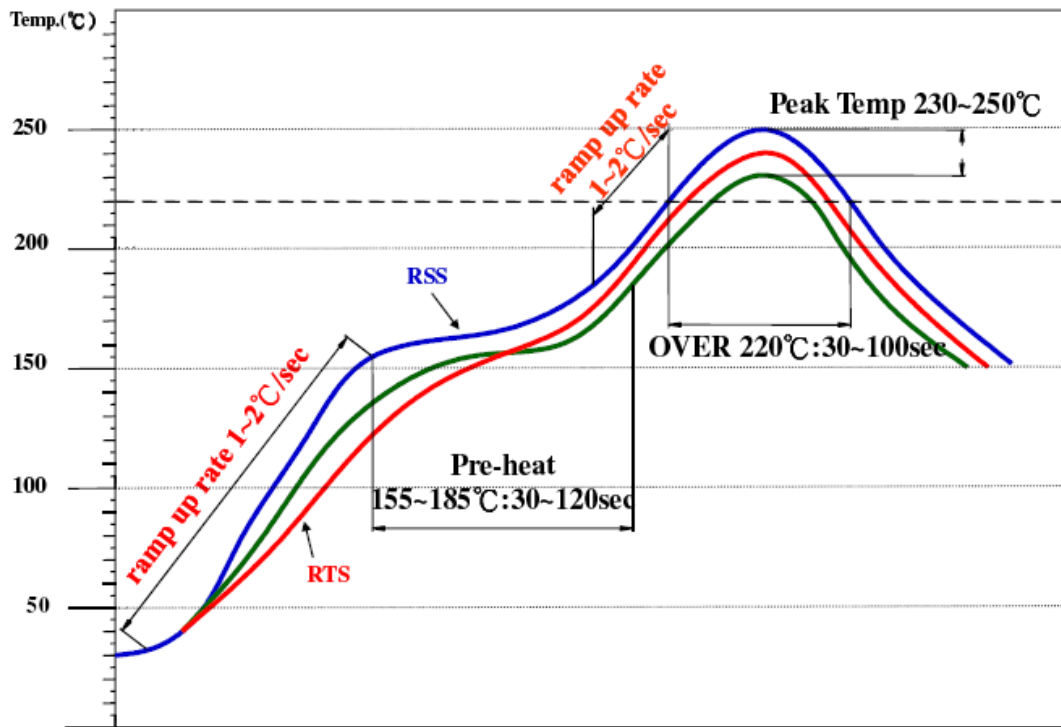
◆ Test Conditions: (after cleaned with plain water) 65 °C, 88.5% RH for 596 hrs

— Alloy Composition —

(Sn)	(Ag)	(Cu)	(Ni)	(Ge)	(Zn)	(Al)	(Sb)	(Fe)	(As)	(Bi)	(Cd)	(Pb)
REM.	2.8~ 3.2	0.3~ 0.7	0~ 0.01	0~ 0.01	0.001 MAX	0.001 MAX	0.05 MAX	0.02 MAX	0.03 MAX	0.10 MAX	0.002 MAX	0.05 MAX

Patent No. : Japanese Patent No. 3296289 ◦ U.S Patent No. 6179935B1 ◦ Germany Patent No. 19816671C2 (Wt%)

— Temperature Profile —



- ramp up rate(30~150 °C) : 1.0~2.0 °C/sec
- pre-heating time(155~185 °C) : 30~120 sec
- time period above 220 °C : 30~100 sec
- ramp up rate during reflow: 1.0~2.0 °C/sec
- peak temperature: 230~250 °C
- ramp down rate during cooling: 1.0~6.0 °C/sec

— Handling and Storage Instructions —

1. Storage

- (1) Refrigerate pastes at 0-10 °C helps prolong shelf life; normal shelf life is 6 months from production date (sealed jars).
- (2) Keep away from direct sunlight.

2. Operation Manual (Sealed)

- (1) Allow pastes to reach ambient printing temperature prior to use for 3-4 hrs. Do not heat to raise temperature abruptly.
- (2) Well mix paste with plastic spatula for 1-3 mins before use. Mixing time depends on tool type.

3. Operation Manual (Opened)

- (1) At first, add 2/3 jar of solder paste onto the stencil. Do not add more than 1 jar.
- (2) Add a little amount of paste at a time on the stencil according to printing speed.
- (3) It is recommended to finish fresh paste within 24 hrs. To maintain paste quality, make sure not to store used paste and fresh paste in the same jar.
- (4) After printing, it is suggested to place components to be mounted on the circuit board and reflow within 1-2 hrs.
- (5) If printing process was interrupted for more than 1 hr, be sure to remove paste remnant from stencil and seal them in the jar.
- (6) It is recommended to keep printing environment at 22-28 °C and RH of 30-60%.
- (7) To clean up printed circuit boards, it is suggested to use ethanol or isopropanol.
- (8) The residue is easily cleaned with plain water at a minimum of 60psi and 60±5°C. These parameters may be adjusted to accommodate various board geometries and the efficiency of the cleaner.

Contact Information

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