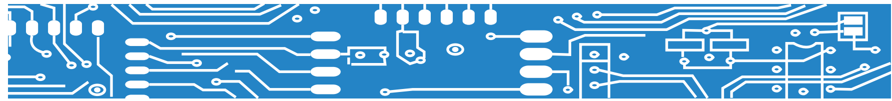
ECO+PLUS® series

Lead Free SOLUTIONS you can TRUST



Anti-Pillow Defect Leaded Solder Paste

SE48-M956-2 & SS48-M956-2

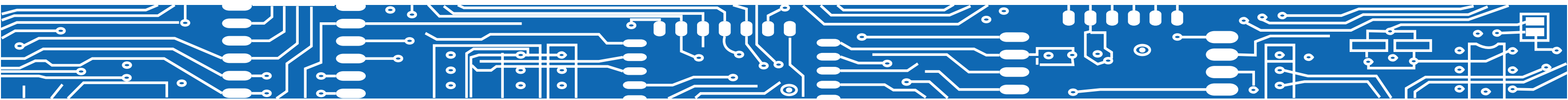
■ Features

1) Ensures outstanding continual printability for fine pitch (0.5mm/20mil) at even super fine pitch (0.4mm/16mil) applications.
2) Carefully selected thixotropic materials ensure excellent slump resistance and significantly reduces the occurrences of bridging and solder beading.
3) Assures joining strength due to a sound solder fillet formation with excellent wetting.
4) Reduces the occurrence of voids significantly, thanks to a carefully selected flux formation system based on thorough research and development.
5) From the specifically designed thermal stable flux medium, faster wetting is achieved which helps to eliminate pillow joints.

■ Specifications

Application			Printing - Stencil	
Product			**SE48-M956-2**	**SS48-M956-2**
Alloy	Composition (%)		Sn63, Pb37	Sn62, Pb36, Ag2
	Shape		Spherical	
	Melting point (℃)		183	179 - 190
	Particle size (μ m)		20 - 45	
Flux	Halide content (%)		0.0	
	Surface insulation resistance *1	Initial value (Ω)	$>1\times10^{12}$	
		After humidification (Ω)	$>1\times10^{11}$	
	Aqueous solution resistivity *2 (Ωcm)		$>5\times10^{4}$	
	Flux type *3		ROL0	
Product	Flux content (%)		10	
	Viscosity *4 (Pa.S)		200	
	Copper plate corrosion *5		Passed	
	Solder spread factor (%)		90	
	Tack time		> 36 hours	
	Shelf life (below 10℃)		6 months	
	Alloy option		**SSA48-M956-2** ; Sn62.6, Pb36.8, Ag0.4, Sb0.2	

1. SIR .... 40℃×90%RH×96Hr
2. Aqueous solution resistivity .... In accordance with MIL specifications.
3. Flux type .... In accordance with ANSI/J-STD-004
4. Viscosity .... Malcom spiral type viscometer, PCU-205 at 25℃ 10rpm
5. Copper plate corrosion .... In accordance with JIS.

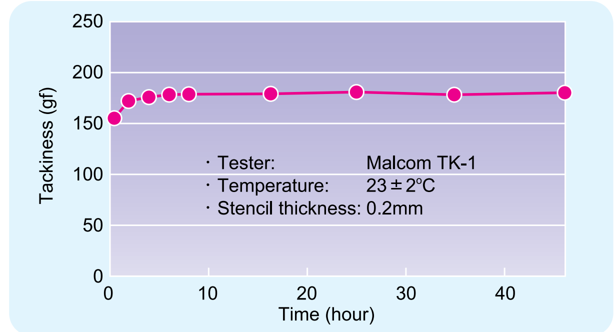


■ Printing

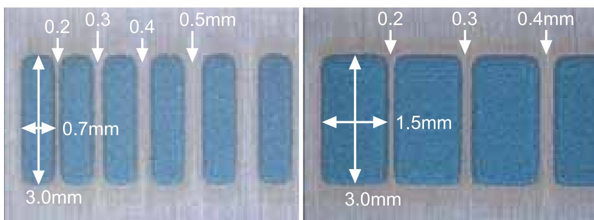
(Continual printing at 50mm/sec., w/out cleaning)

0.4mm pitch (10th print) 0.3mm pitch (10th print)

■ Tack time

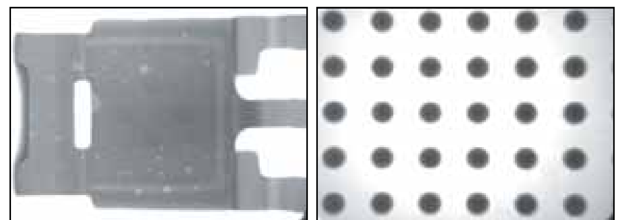


■ Heat slump



・Heat profile : 150°C×5min.
・Test method : JIS Z 3284

■ Voiding



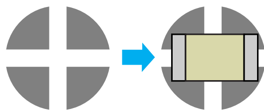
Power Tr. (SnPb) BGA (SnPb)

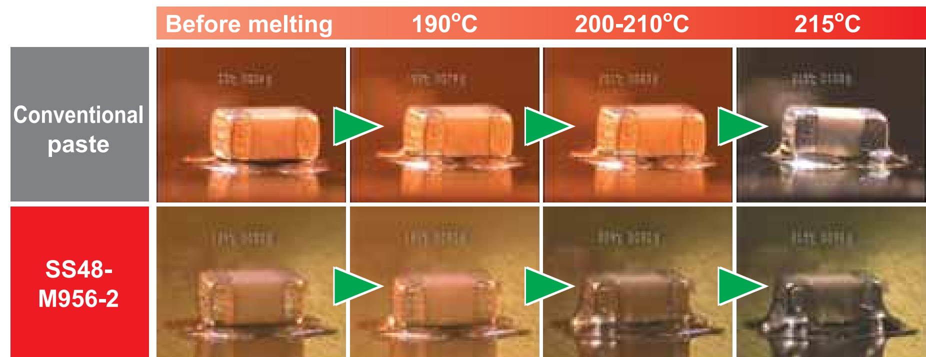
■ Quick wetting speed

In the wetting test, the chip capacitor was placed on one time reflowed solder and reflowed again to simulate the pillow phenomenon. SS48-M956-2 started to wet to the component at 190°C, whilst the conventional paste started at 215°C. Such a quicker wetting action will help to allow sufficient time for the solder to wet/merge completely with the components and prevent the hidden pillow defects.

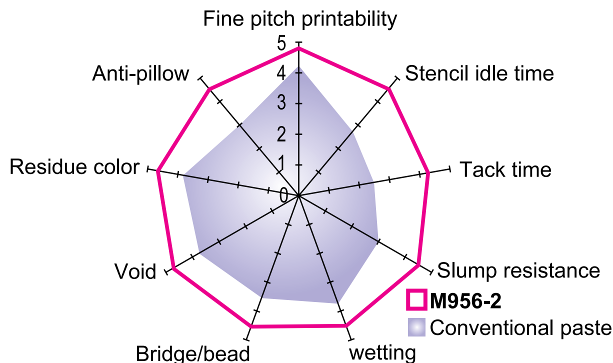
・Stencil : 0.12mm thickness
・Preconditioning of component: 150°C for 3 hours baking

Reflow solder Reflow again with component

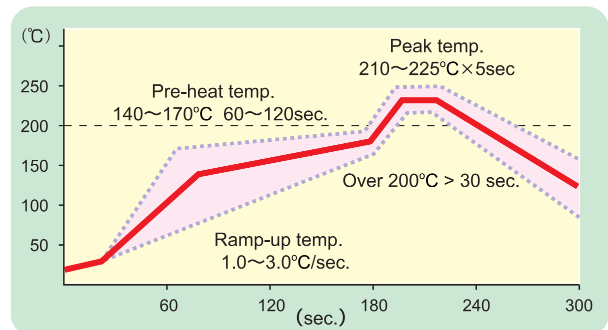




■ Product characteristics



■ Recommended reflow profile



*Specifications are subject to change.

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