

Lead Free Wave Soldering Flux

JS-EU-01

An all-round liquid flux developed in pursuit of eliminating the defect modes peculiar to lead free soldering.

New low solids formulation drastically **REDUCES** bridging, blow holes and solder balling.

Significant **IMPROVEMENT** in through hole filling with OSP boards.

Extremely **LOW** residue despite a powerful soldering action.

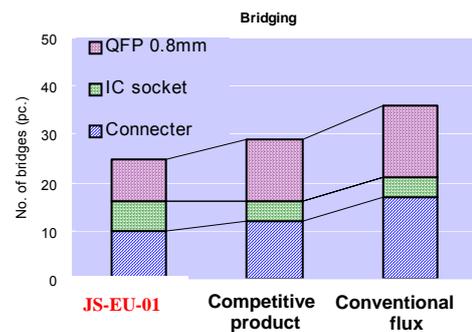
High soldering quality

- Remarkably improves various soldering defects!

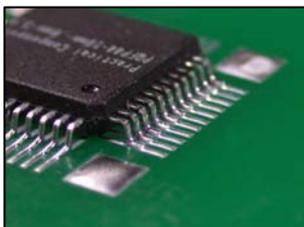
Thanks to the newly blended vehicle with excellent wettability on metal surfaces, it has achieved a thin and uniform flux layer. Excellent wettability is realized by removing the OSP/Oxide film on the board pad in the preheating stage, securely preventing re-oxidization, and promptly spreading the active ingredients of the flux over the interface with the molten solder.

Test board (fault finding design)
0.8mm pitch QFP : 1 pc.
1.0mm pitch 16-pin connector : 4 pcs.
0.8mm pitch 40-pin IC socket : 1 pc.
Transistor : 39 pcs.
Number of boards : 5 pcs.

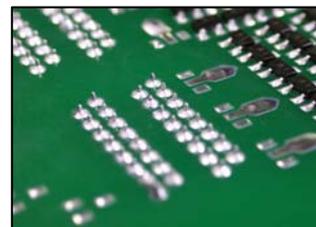
Solder alloy : SnAg3.0Cu0.5



QFP
(0.8mm; 44pin)



Connector
&
Transistor



Solder balls

- New technology drastically reduces ball generation!

Many solder balls are generated on the soldering surface because of the characteristics of lead-free solder, such as inferior solder wettability and cutoff punctuality.

The balls cause a decline in the direct first time pass rate, or an increase in cleaning and adjustment costs.

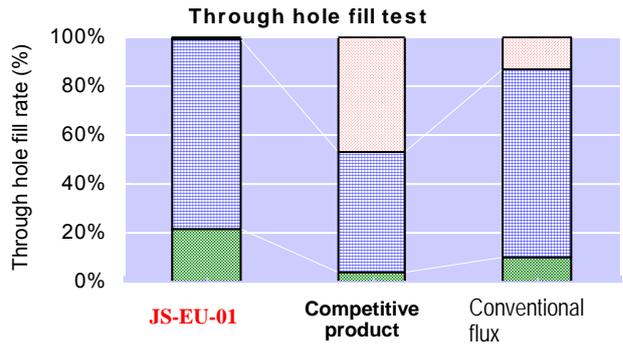
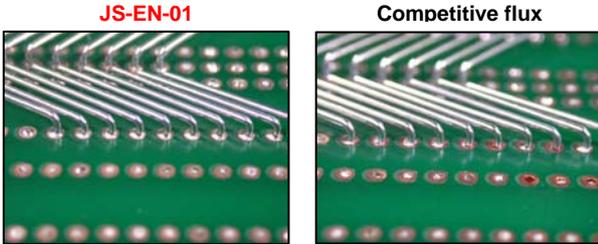
A trigger for ball generation may be ill-balanced flux fluidity and the solder wetting speed.

Through-hole fill property

Since the melting point of lead free solder is relatively higher than that of Sn/Pb solder, the fluidity of the solder deteriorates, as does the through-hole fill property decline significantly because of the high surface tension and the inferior solder wetting and spreading properties of the alloy.

JS-EU-01 is a well balanced composition of various active materials to improve solder setting, and also enables fast and sure solder wetting by evenly providing enough sustained activity materials with positive "wetting of flux over the molten solder and pad interface" realized by the new blended flux vehicle "capable of evenly wetting thinly over the metal surfaces at ambient temperature and soldering temperature".

Test conditions (fault finding design board)
 Through hole diameter: 0.8mm : 500 points
 Through hole diameter: 1.0mm : 125 points
 Through hole diameter: 0.6mm : 125 points
 Surface treatment : OSP
 Solder alloy : SnAg3.0Cu0.5
 Solder temp. : 250°C

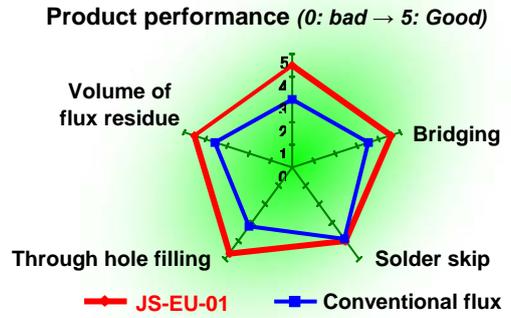


Rank	Insufficient	Non-wetting to top pad	Wet to top pad >50%
State			

Excellent total balance

As far as a solution of the faulty soldering problem is concerned, the skewed improvement of a single characteristic could rather break down the balance of the entire products, and lower performance consequently.

JS-EU-01 is an excellent product in total balance without biases toward certain characteristics, reflecting improvement on existing products in each category which affects the soldering performance of any board and components.



Specifications & Other products

Product	JS-EU-01	JS-EU-02	JS-EU-31	JS-E-3102
Specific gravity (at 20°C)	0.814	0.795	0.795	0.795
Non-volatile content (%)	4.0	2.8	2.7	2.7
Halide content (%)	0	0	0	0
Acid value (KOHmg/g)	26.0	18.3	19.6	17.0
Flux type	ORL0	ORL0	ORL0	ORL0
Application method	Spray	Spray	Spray	Spray
Application	Wave, selective	Wave, selective	Wave, selective, repair	Wave, selective, repair
Feature	As above	<ul style="list-style-type: none"> Excellent thru-hole fill Applicable for a short soldering machine 	<ul style="list-style-type: none"> Halogen FREE Powerful solderability Few solder balls 	<ul style="list-style-type: none"> Extremely high reliability Powerful solderability Few solder balls

Product	JS-EN-02	JS-E-11Ni	JS-E-15	JS-3000V-4
Specific gravity (at 20°C)	0.800	0.804	0.823	1.015
Non-volatile content (%)	7.1	8.0	15.4	5.0
Halide content (%)	0	0.032	0.089	0
Acid value (KOHmg/g)	20.3	--	26.0	35.6
Flux type	ROL0	ROM1	ROM1	ORL0
Application	Spray	Spray / Foam	Spray / Foam	Spray
Application method	Wave, selective	Wave	Wave, selective, repair	Wave
Feature	<ul style="list-style-type: none"> Few solder balls Use of N2 recommended 	<ul style="list-style-type: none"> Powerful solderability Excellent thru-hole fill Few solder balls 	<ul style="list-style-type: none"> Powerful wetting Excellent thru-hole fill Good soldering w/out pre-heating 	<ul style="list-style-type: none"> VOC FREE product Excellent thru-hole fill Extremely low residue

*Specifications are subject to change

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