

Core Solders (Products for Minimizing Tip Erosion)

Achieves significant cost reduction by reducing the number of tips used

SR-37 LFM-48S SR-37 LFM-22S / SR-37 LFM-41S

The main causes of iron tip erosion when using lead-free solder are longer soldering time and higher melting point. The combination of Flux SR-37 and LFM-48S alloy improves wettability at lower temperature and shortens the soldering time. As a result of tip exchange reduction, substantial cost reduction is possible.

[Application] ● Sn-Ag-Cu alloy ● Sn-Cu alloy/Robotic soldering machines, soldering with specialized tips, etc.

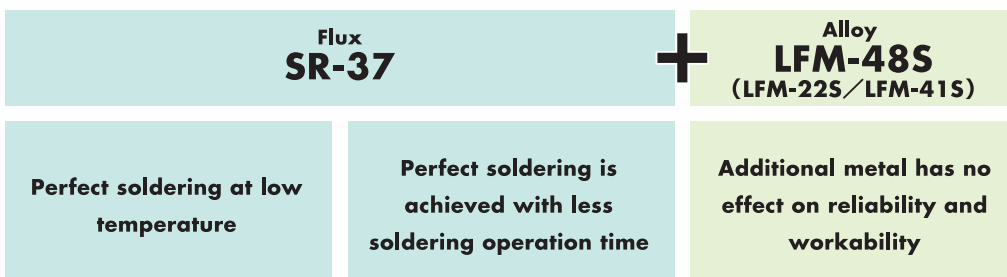


Benefits of introducing anti-tip erosion products

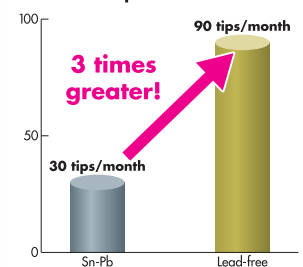
Three major reasons for excessive tip erosion with lead-free soldering operation



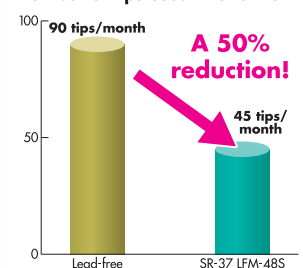
When using products for minimizing tip erosion



Number of tips used in one month

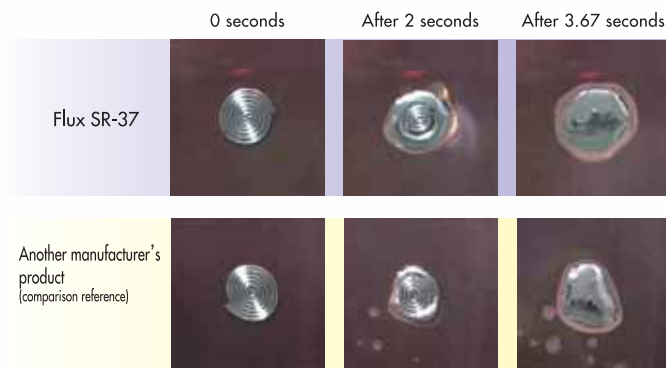


Number of tips used in one month



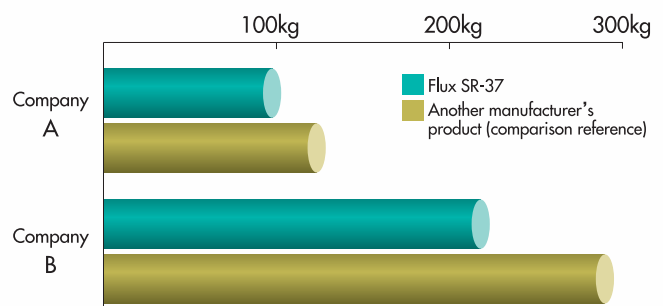
Cost reductions are achieved through reductions in the number of tip changes!

Result of the spread area test on a Cu plate as compared with that of another manufacturer's product (Cu plate is set to 270°C)



Benefits of improved wettability speed

Solder wets the mother material quickly, which prevents using excessive amount of solder.

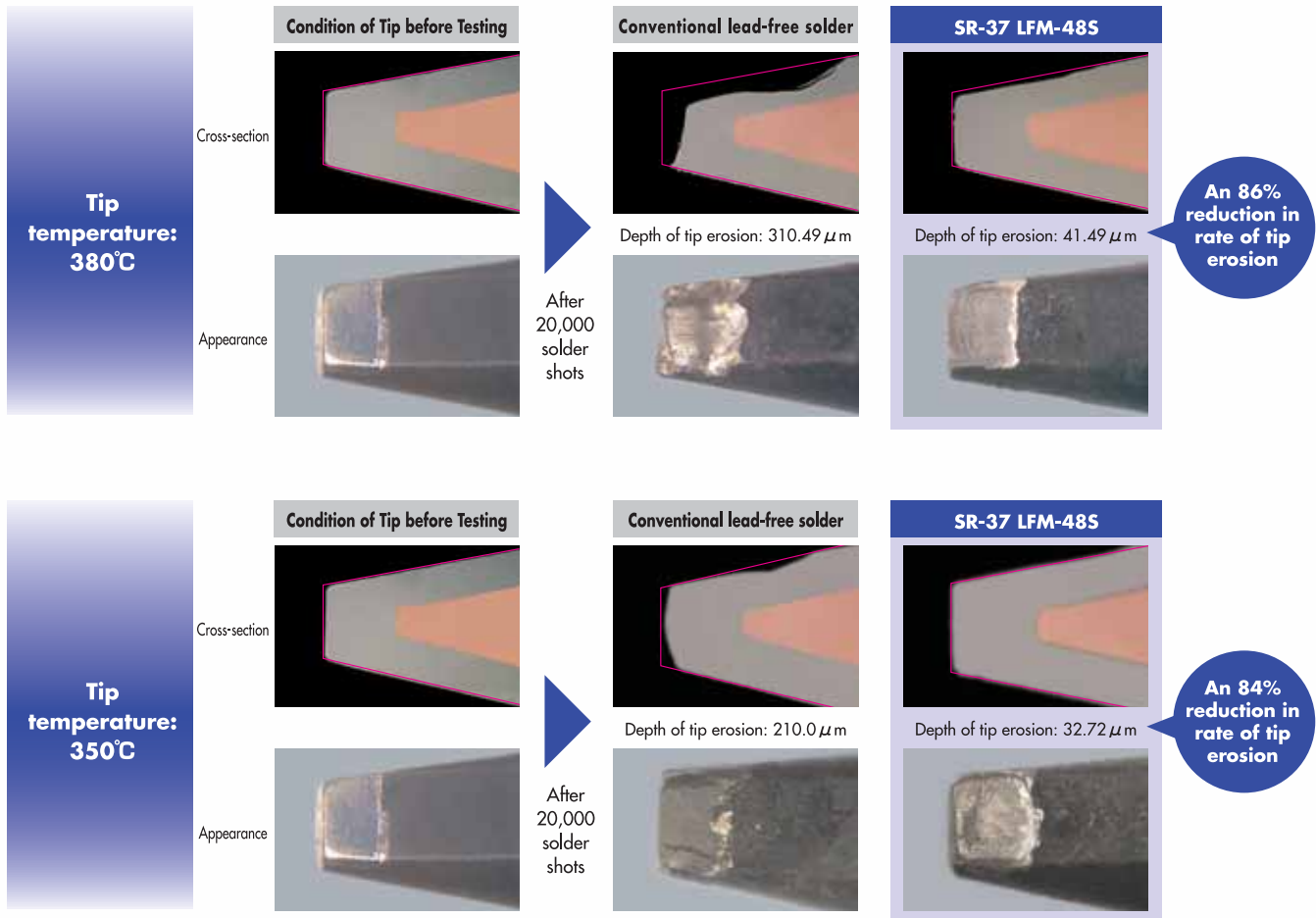


Examines the tip erosion by testing durability and comparing wettability speed.

Tip Erosion Durability Test

Depth measurements of tip erosion after 20,000 solder shots using a robotic soldering machine.

[Testing conditions] ○ Test equipment: UNIX-412 made by Japan Unix ○ Solder feeding quantity: 5mm/shot ○ Solder feeding speed: 10mm/shot ○ Solder Reverse speed: 10mm/shot



Example of SR-37 LFM-48 use (a major electronic component manufacturer)

By a major electronics manufacturer, substantial cost effectiveness has been achieved.

Defect rate is reduced by slowing the decrease of thermal conductivity caused by tip erosion. Annual cost of tips was reduced to one third from 10 million yen by reducing the number of tips consumed.

Line-up of Rosin-Core Solder

(Example) SR-37 LFM-48S 3.5% 1.0 φ
 Flux + Alloy + Flux Content + Wire Diameter

Rosin-Cored Solder Specifications

Flux	Alloy composition	Flux Content	Melting Temperature	Wire Diameter
SR-37	LFM-48S (Sn-3.0Ag-0.5Cu-α)	3.5%	217-221°C	0.3, 0.38, 0.5, 0.65, 0.8, 1.0, 1.2, 1.6
	LFM-22S (Sn-0.7Cu-α)	3.5%	227-228°C	0.5, 0.65, 0.8, 1.0, 1.2, 1.6
	LFM-41S (Sn-0.3Ag-2.0Cu-α)	3.5%	217-270°C	0.5, 0.65, 0.8, 1.0, 1.2, 1.6

※ LFM-48S has been sublicensed for US PAT No. 6231691B1. ※ Alloy LFM-48S is compatible with other fluxes such as SR-34 Super.
 ※ SR-37 LFM-41S is effective in minimizing Cu erosion. ※ If the ordered core solder is out of stock, please contact with our sales representative.

Technology for the future

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