

Low Ag flux cored solder wire with no SVHC substances restricted by REACH

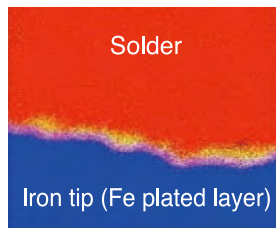
S01X7Ca-70M Sn 0.1Ag 0.7Cu+Co

Extend the iron tip life by added iron anti-erosion properties

Inhibits iron tip erosion

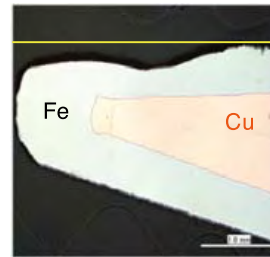
S01X7Ca-70M forms an IMC layer of Sn-Fe-Co between the solder and the iron tip. This IMC layer inhibits the erosion of Sn from the solder, and drastically extends the iron tip life.

Interface (EPMA image)

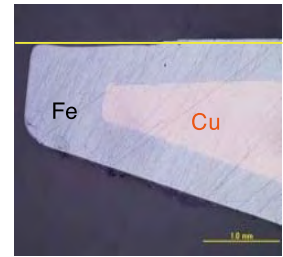


Forming a barrier layer of Sn-Fe-Co

Figure 1. Condition of iron tips after 10,000 shots



SAC305



S01X7Ca

Iron tip life drastically extended

Cost reduction simulation

Cost reduction by using low Ag alloy (Ref. Metal market price)

- Suppose monthly consumption of solder wire is 100kg
- Metal price /kg (Average price of 2012 in the first half)

Sn = USD241.25 Ag = USD1,015.00 Cu = USD8.50

SAC305	S01X7Ca
Sn/3.0Ag /0.5Cu	Sn/0.1Ag/0.7Cu/Co
Price: USD53.75 /kg	Price: USD25.00 /kg
Monthly consumption (=100kg) = USD5,375.00 /m	Monthly consumption (=100kg) = USD2,500.00 /m

Save USD2,875.00 /mo. (simulation)

Cost reduction by saving the iron tip consumption

- Suppose 100 soldering irons used in a plant
- Suppose an iron tip costs USD7.50

SAC305	S01X7Ca
Replace the iron tips every 1.5 week. (Consumption: 270 tips/m)	Replace the iron tips every 3 weeks. (Consumption: 133 tips/m)
Unit price x consumption = USD202.50 /m	Unit price x consumption = USD99.75 /m

Save USD1,027.50 /mo. (simulation)

Adopting S01X7Ca-70M enables remarkable cost reductions both by "product price" and "iron tip consumption".

Product specifications		S01X7Ca-70M	S03X7Ca-70M	0.1Ag+α Solder alloy	Low Ag	Inhibits iron tip erosion
Product name		S01X7Ca-70M	S03X7Ca-70M			
Alloy composition (%)		Sn 0.1Ag 0.7Cu + Co	Sn 0.3Ag 0.7Cu + Co			
Melting point (°C)		217-227				Powerful wetting
Flux content (%)		3.2				No SVHC contained REACH
Halide content (%)		0.09				
Flux type		ROL1		Applicable for robot soldering		
Diameter (mm)		0.3 0.4 0.5 0.6 0.8 1.0 1.2 1.6		No clean type	No-clean	