

## SN100C- Reliable Joints

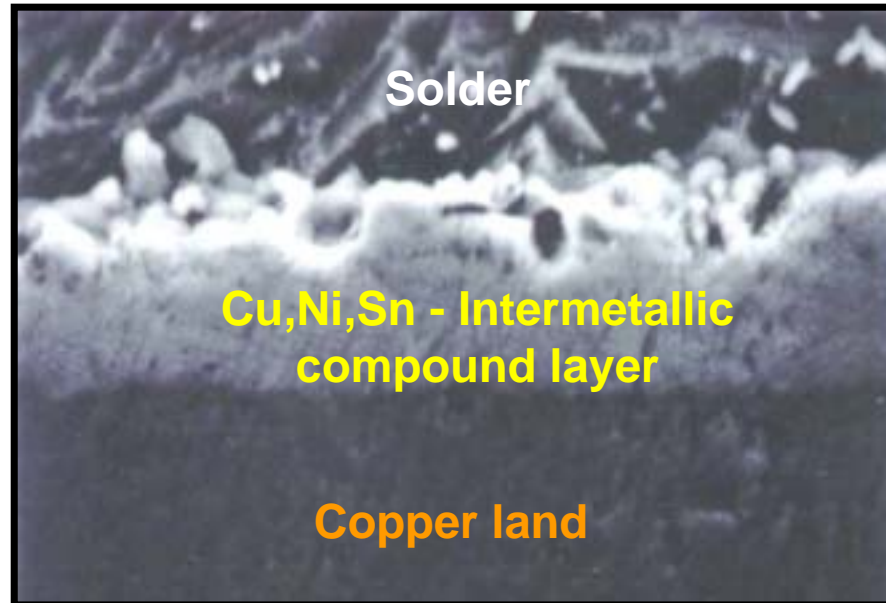
# Stable Intermetallic



SN100C is an excellent lead-free solder that offers high first pass yield, *reliable joints* and economical operation. We will explain the formation of “Stable Intermetallic” of SN100C.

# Formation of Stable Intermetallic

SN100C forms a stable intermetallic compound layer  
at the solder copper interface.



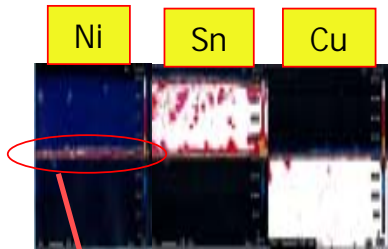
SN100C forms stable  $(\text{Cu,Ni})_6\text{Sn}_5$  intermetallic at the interface between copper land and solder.

# High Temperature Storage Test

[Test conditions]

Soldering:255

High temperature storage at 120



Ni barrier layer

$(\text{Cu,Ni})_6\text{Sn}_5$

$\text{Cu}_6\text{Sn}_5$

Solder alloy Time(h)	Magnified cross section		
	SN100C	Sn-0.7Cu	Sn-3.0Ag-0.5Cu
0			
192			
768			

➔ When aged at 120 the intermetallic compound layers formed by Sn-0.7Cu and Sn-3.0Ag-0.5Cu at their interface with copper grow and develop an uneven surface. By contrast the layer formed by SN100C does not grow and remains relatively smooth.