



Solder plus Support

# SN100C<sup>®</sup>

## SOLDER ALLOY

Available in Paste, Wire, Bar, Preforms



### SN100C ALLOY AT A GLANCE

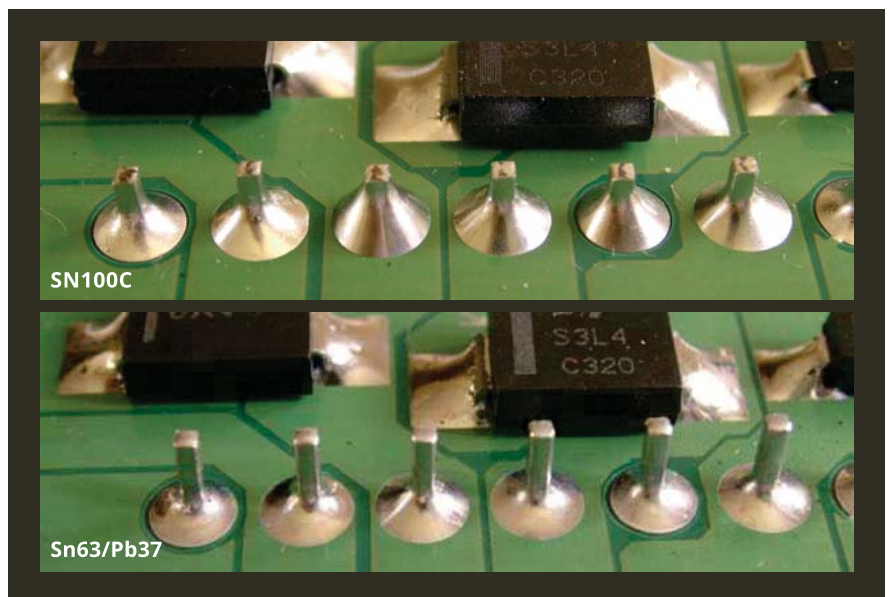
- ▶ Significant cost savings, does not contain costly silver or bismuth
- ▶ Eutectic alloy
- ▶ Bridge-free and icicle-free wave soldering
- ▶ Smooth, bright, well-formed solder joints
- ▶ Dross rate equal to or lower than tin-lead solder
- ▶ Slower rate of copper erosion from holes, pads, and tracks than that of other lead-free alloys



AIM, a leading global manufacturer of solder assembly materials for the electronics industry, offers SN100C; today's preferred silver-free, lead-free alloy with the lowest cost of ownership as compared to any other lead-free solder alloy.

**SN100C** is a lead-free solder alloy developed by Nihon Superior in Japan comprised of tin, copper and a small amount of nickel + germanium. SN100C offers user-friendly properties and has been proven in commercial production since 1999.

SN100C consistently outperforms SAC305 and other silver bearing alloys in many key areas of wave, selective, SMT and manual soldering operations. Better aesthetics lead to higher acceptance rates, less operator objection and better quality. One alloy for all your soldering requirements means fewer alloy compatibility concerns and lower overall costs.



## SN100C® SOLDER SURFACE COMPARISON



## ADDITIONAL SN100C KEY FEATURES

- Thermal fatigue resistance and creep strength better than tin-lead
- Good through-hole penetration
- Good topside fillet formation
- Offers high throughput
- Does not require nitrogen atmosphere
- Low rate of copper leaching makes it easy to control copper content of the solder bath
- Lower aggressiveness to stainless steel and other solder pot materials as compared to tin-silver-copper alloys
- Slow, even growth of the intermetallic layer at the solder-substrate interface

## TECHNICAL SPECIFICATIONS

MELTING POINT	ALLOY DENSITY	COMPOSITION (mass%)			
		Sn	Cu	Ni	Ge
227°C	0.2634 lb/in <sup>3</sup>	R	0.7	0.05	≤0.01

**SEAMLESS CHANGEOVER** The issue of lead-free soldering can be complex. We invite you to benefit from our expertise in material selection and process development in lead-free soldering implementation. AIM's services include process audits, solder pot analyses and applications support. AIM is here to help you from changeover right through optimization.

**ALLOY COMPATIBILITY** Extensive testing has demonstrated that no degradation occurs when mixing SN100C with tin-silver-copper or other lead-free alloys. Therefore, it is acceptable to utilize SN100C for wave soldering and SAC305 for SMT without compromising reliability. No reliability degradation is found when using SN100C wire to touch up SAC305 solder joints and vice versa. Please contact AIM or visit <http://www.aimsolder.com/products/sn100c> for a full report.

**WORLDWIDE AVAILABILITY** SN100C is available from AIM in solder paste, bar, cored and solid wire, solder performs and solder spheres.

## ALLOY COMPATIBILITY TEST DATA BEFORE AND AFTER THERMAL CYCLING

Results show that solder joints made with SAC, SN100C and the SN100C plus SAC mixture are all comparable to tin-lead solder joints made on the same board. Extensive thermal cycle testing exhibits no measurable degradation of mixed alloy solder joints.

ALLOY	0 CYCLES	1000 CYCLES
SAC305	15.3 lbs	15.0 lbs
SN100C / SAC mix	14.1 lbs	14.3 lbs
SN100C	14.2 lbs	14.0 lbs
Sn/Pb	14.8 lbs	14.5 lbs