

LINQALLOY Sn63Pb37



Sn63Pb37 Solder Spheres

- Eutectic solder spheres with predictable melting point
- Tin–lead alloy with excellent wetting
- For BGA and CSP components

LINQALLOY Sn63Pb37 solder spheres are precision-engineered tin–lead eutectic solder spheres designed for BGA and CSP assembly where tight process control and repeatability are required. As a true eutectic alloy, Sn63Pb37 has a distinct melting point at 183 °C with no intermediate semi-solid phase, enabling consistent reflow behavior and minimizing defects such as incomplete wetting or component misalignment.

LINQALLOY Sn63Pb37 solder spheres are manufactured with controlled diameter tolerances and high sphericity to support uniform placement and reliable joint formation. The alloy provides strong wetting on common metallizations, resulting in stable electrical conductivity and mechanical integrity across solder joints.

Elemental Composition (in wt%)

Sn	Pb	Ag	Cu	Sb	Cd	Al	Bi	As	Fe	Zn
62.5 – 63.5	Balance	≤0.05	≤0.05	≤0.05	≤0.002	≤0.01	≤0.03	≤0.03	≤0.02	≤0.001

Technical Specifications*

Property	Value	Unit
Alloy Composition	Sn63Pb37	%
Eutectic Melting Point	183	°C
Peak Reflow Temperature	220–225	°C
Density	8.4–8.7	g/cm ³
Vickers Hardness	16–22	Hv
Tensile Strength	35–75	MPa
Young’s Modulus	25–40	GPa
Elongation	25–45	%
Electrical Resistivity	13–16	μΩ·cm
Thermal Conductivity	45–55	W/m·K

**Mechanical properties listed are based on typical Sn63Pb37 bulk alloy values and do not represent measurements of individual solder spheres.*

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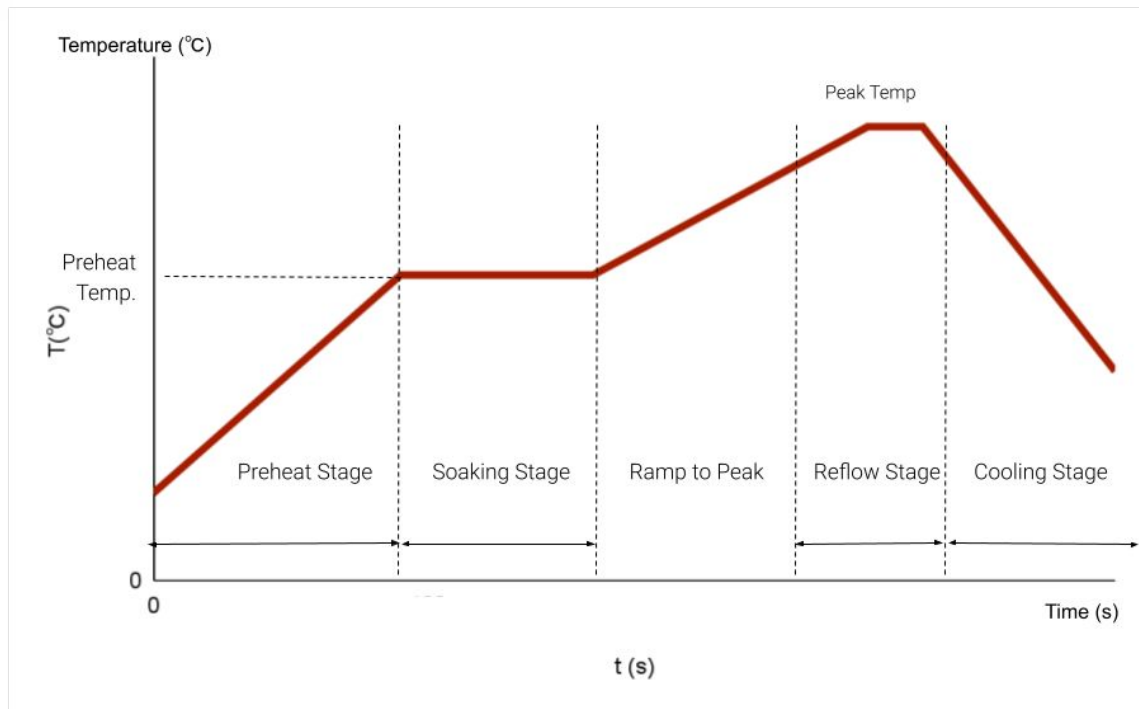
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Recommended Reflow Process

Preheating Stage		Soaking Stage		Reflow Stage		Cooling Stage
Preheat Rate [°C/s]	Preheat Temperature [°C]	Soaking Time [s]	Soaking Temperature [°C]	Reflow Time [s]	Peak Temperature [°C]	Cooling Rate [°C/s]
1.0 – 3.0	100–150	60–120	100–150	10–30	220–225	6.0

Reflow Profile



Storage and Handling

LINQALLOY Sn63Pb37 solder spheres are available in jars containing either 250,000 or 1 million spheres. To maintain their quality, the jars should be stored in a clean, dry environment and kept in sealed containers. The product should not be refrigerated. Avoid probing the spheres with fingers or other implements, as this can alter their shape, score their surface, or introduce contaminants, potentially causing placement difficulties.

LINQALLOY Sn63Pb37 solder spheres are originally packed in jars with inert gas (nitrogen) and are sealed with shrink-wrapped plastic to prevent oxidation. When stored properly in sealed jars and without agitation, the shelf life of the solder spheres is 2 years.

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

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