

Microbond[®] Solder Preforms

Reliable Interconnects for Power Module Attach Applications

Microbond[®] Solder Preforms are engineered to meet the mechanical, thermal, and reliability requirements of modern power module assembly. Designed for secure attachment of power packages to baseplates or coolers, they utilize advanced Innolot[®] alloys to ensure consistent performance — even under harsh thermal cycling and high-power conditions.

With flexible sizing and form factors, Microbond[®] Solder Preforms are compatible with the majority of module and substrate interconnect applications in the market. As a balanced solution between cost and performance, they offer durable and efficient bonding for a wide range of power electronics assemblies.

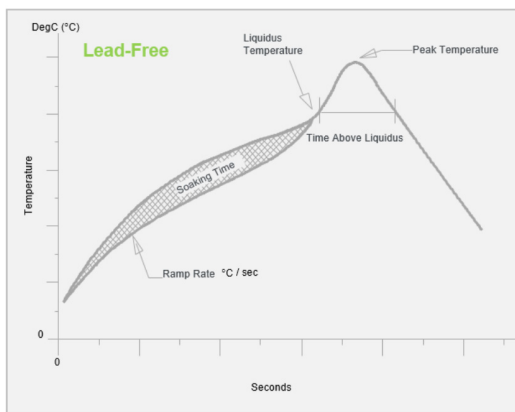
Key Benefits

- **High reliability with low melting temperature** for sensitive components
- **Innolot[®] alloy** enables low process temperatures and robust joint integrity
- **Innolot[®] 2.0** offers even higher cost efficiency with comparable performance
- **Ribbons or singulated preforms** available for high design flexibility
- **Lead-free (Pb-free)** formulation meets environmental and regulatory standards
- **Clean and easy processing** with no printing waste supports high-throughput manufacturing

Product Properties	Innolot®	Innolot® 2.0
Alloy Composition	SnAg3.8Cu0.7Ni0.1Sb1.5Bi3	SnAg1.5Cu0.7Sb1.5Bi3xx
Melting Temperature	206 - 218 °C	212 - 222 °C
Tensile Strength (25°C)	≥ 83MPa	80 MPa
Yield Strength (25°C)	60 MPa	51 MPa
Density	7.46 g/cm ³	7.4 g/cm ³
Compatible Surfaces	Cu, Ag	Cu, Ag

Processing		
Application	Pick-and-place	Pick-and-place
Peak Reflow Temperature	15 - 40 °C above melting temperature	15 - 40 °C above melting temperature
Reflow Atmosphere	Formic acid	Formic acid
Vacuum	Compatible	Compatible
Cleaning	Not necessary	Not necessary

Reflow Profile



Preheat ramp rate: 1.0 - 3.0 °C/sec

Preheat from RT to 150 °C to ensure sufficient delta for the soak zone.

Peak temperature: 15 - 40 °C above melting temperature

Typically, the peak temperature is 30 °C above alloy melting point. High peak temperature is required to reduce the solder void rate during molten stage.

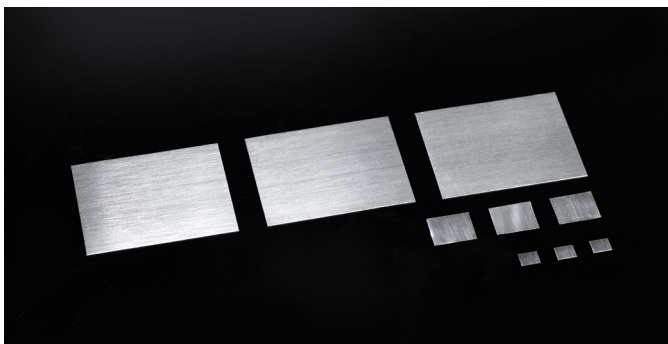
Time above liquidus (tal): 45 - 90 sec

Generally, all alloys require 45 - 90 sec for good solder joint formation.

Reflow atmosphere: formic acid

Preforms to reflow in reducing atmosphere to remove oxidation and support good wetting.

Packaging



Ribbons or singulated preforms available for high design flexibility.

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