

# LINQALLOY SAC305

## SAC305 Solder Spheres



- Outstanding solder joint reliability
- Excellent fatigue resistance
- Compatible with all flux types

**LINQALLOY SAC305** solder Spheres are Pb-free SnAgCu alloys containing 96.5% tin, 3% silver, and 0.5% copper. SAC305 is one of the least expensive industrial standard Pb-free solder spheres, along with [SAC405](#). These soldering materials are suitable for soldering BGA, CSP, LBGA, PBGA and CBGA components.

**LINQALLOY SAC305** solder Spheres are compatible with all major flux brands and types. They offer superior solder joint reliability and excellent fatigue resistance. Due to their fast wetting speed, these solder spheres provide outstanding solderability.

### Elemental Composition (in wt%)

| Sn      | Ag        | Cu        | Sb     | Cd     | Al     | Bi     | As     | Fe     | Zn     | Pb     |
|---------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Balance | 2.90–3.10 | 0.45–0.55 | ≤0.120 | ≤0.005 | ≤0.005 | ≤0.150 | ≤0.010 | ≤0.020 | ≤0.005 | ≤0.100 |

### Technical Specifications

| Property                         | Value              | Unit              |
|----------------------------------|--------------------|-------------------|
| Alloy Composition                | Sn96.5 Ag3.0 Cu0.5 | %                 |
| Solidus / Liquidus Melting Point | 217 / 219          | °C                |
| Peak Reflow Temperature          | 245–250            | °C                |
| Density                          | 7.4                | g/cm <sup>3</sup> |
| Vickers Hardness                 | 15.5               | Hv                |
| Tensile Strength                 | 51.3               | MPa               |
| Young's Modulus                  | 63.4               | GPa               |
| Elongation                       | 37.0               | %                 |
| Electrical Resistivity           | 13.1               | μΩ·cm             |
| Thermal Conductivity             | 71.8               | W/m·K             |

#### Europe

Industrieweg 15E,  
1566JN Assendelft  
The Netherlands  
Phone: +31 (20) 893 2224  
Email: [info@caplinq.com](mailto:info@caplinq.com)

#### Canada

80 Sirocco Crescent  
Ottawa ON, K2S 2C9  
Canada  
Phone: +1 (613) 482-2215  
Email: [info@caplinq.com](mailto:info@caplinq.com)



#### North America

36927 Schoolcraft Rd  
Livonia, MI 48150  
United States  
Phone: +1 (313) 558-8243  
Email: [info@caplinq.com](mailto:info@caplinq.com)

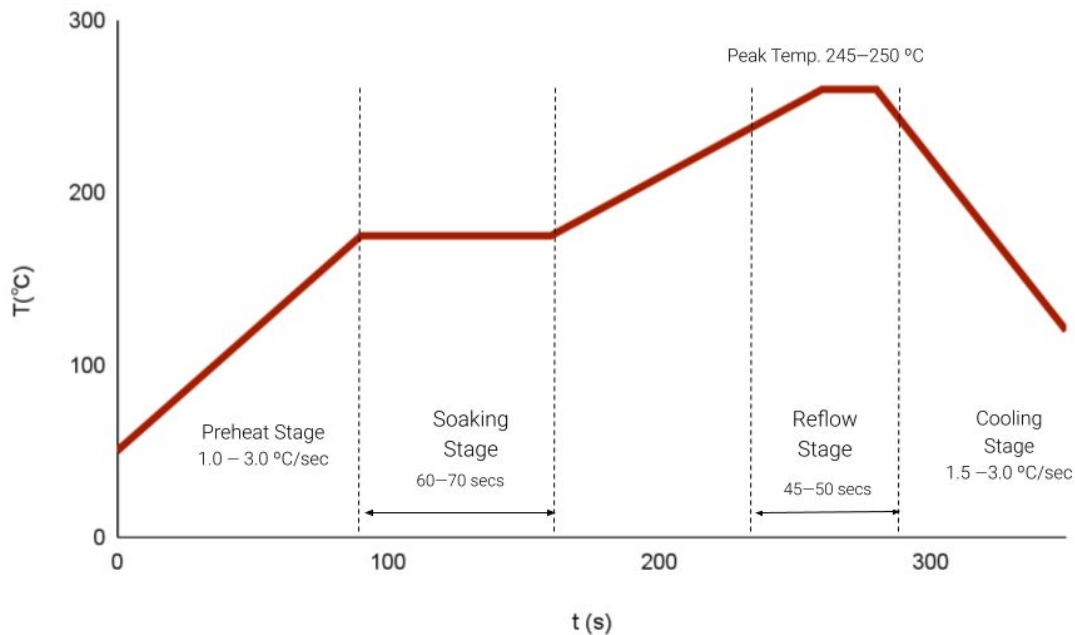
#### South East Asia

S-08-07 Persiaran Triangle  
B Lepas, Penang 11900  
Malaysia  
Phone: +60 (12) 4302223  
Email: [info@caplinq.com](mailto:info@caplinq.com)

## Recommended Reflow Process

| Preheating Stage       |                             | Soaking Stage    |                             | Reflow Stage    |                          | Cooling Stage          |
|------------------------|-----------------------------|------------------|-----------------------------|-----------------|--------------------------|------------------------|
| Preheat Rate<br>[°C/s] | Preheat<br>Temperature [°C] | Soaking Time [s] | Soaking<br>Temperature [°C] | Reflow Time [s] | Peak<br>Temperature [°C] | Cooling Rate<br>[°C/s] |
| 1.0 – 3.0              | 170                         | 60–70            | 170–180                     | 45–50           | 255 ± 5                  | 1.5–2.0                |

## Reflow Profile



## Storage and Handling

**LINQALLOY SAC305 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.

**SAC305 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).

### Europe

Industrieweg 15E,  
1566JN Assendelft  
The Netherlands  
Phone: +31 (20) 893 2224  
Email: [info@caplinq.com](mailto:info@caplinq.com)

### Canada

80 Sirocco Crescent  
Ottawa ON, K2S 2C9  
Canada  
Phone: +1 (613) 482-2215  
Email: [info@caplinq.com](mailto:info@caplinq.com)



### North America

36927 Schoolcraft Rd  
Livonia, MI 48150  
United States  
+1 (313) 558-8243  
Email: [info@caplinq.com](mailto:info@caplinq.com)

### South East Asia

S-08-07 Persiaran Triangle  
B Lepas, Penang 11900  
Malaysia  
Phone: +60(12)4302223  
Email: [info@caplinq.com](mailto:info@caplinq.com)