LINQALLOY **LASP-SAC305-WS**

SAC305 Solder Paste

- Water Soluble solder paste
- Lead Free
- Excellent printing capabilities

LINQALLOY-LASP-SAC305-WS is a water soluble, lead free, solder paste that has been designed for Surface Mount Technology (SMT). This solder paste is crafted with refined tin powder that allows for exceptional requirement to clean flux residue left after the reflow process.

The removal of the solder flux is crucial for certain high risk application to ensure the PCB board is free from elements which can cause problems. This solder paste has enhanced flux content (higher %) that guarantees higher reliability, with low iconic activator system.

Chemical composition

Alloy	Chemical composition (wt.%)								
	Sn	Pb	Sb	Cu	Bi	Ag	Fe	Al	Cd
Sn96.5-Ag3.0 -Cu0.5	Bal.	< 0.10	< 0.10	0.5±0.1	<0.10	3.0±0.05	<0.02	<0.002	<0.002

Technical Specifications

Item	Specification	Unit	Standard
Alloy	SAC305	-	-
Powder Type	Type 3 - Type 5	-	-
Viscosity@ 25℃	200±20	Pa.s	Malcom PCU 205
Solder ball	PASS		IPC-TM-650 2.4.43
Metal Content	90.5	%	IPC-TM-650 2.2.20
Flux Content	9.8	%	IPC-TM-650 2.2.20
Halogen Content	Fluoride & Silver chromate test - PASS	-	IPC-TM-650 2.3.35.1/33
EMC	PASS	-	IPC-TM-650 2.6.14.1
Copper corrosion	PASS	-	IPC-TM-650 2.3.32
Surface Insulation Resistance	> 1x10^12	Ω	IPC-TM-650 2.6.3.3
RoHS Compliant	Yes	-	RoHS Directive

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

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

North America
36927 Schoolcraft Rd
Livonia, MI 48150
United states
Phone: +1 (313) 558-8243
Email: info@caplinq.com

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

Application Notes:

The type 3 alloy powder is fairly a good option, but it depends on the industry's purposes such as standard selection guide or printing requirement.

You have a choice between two printing scraper materials, polyurethane with a hardness ranging from 80 to 90 Shore, or stainless steel. When it comes to scraper velocity, the sweet spot is within the range of 25 to 150 mm/sec.

Additionally, templates are available in various materials, including stainless steel, molybdenum, nickel, or brass. For optimal performance, maintain an operating temperature between 70 to 77°F (21-27°C) and humidity levels at 35-65% Relative Humidity (R.H.).

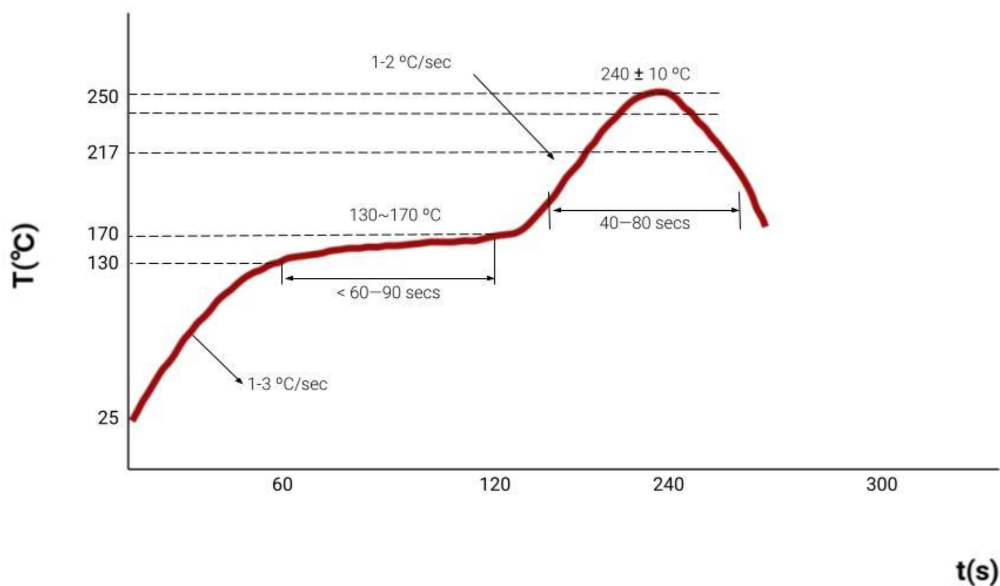
Cleaning:

This lead-free solder paste in this series is designed to be washed by distilled water.

Recommended reflow process

Heating rate	Ramp to 120 °C	Constant 30 - 170°C	Peak	> 220°C	Cooling rate
1-3 °C/sec	< 60—90 secs	60—120 secs	< 245°C ±5	< 40—80 s	<4°C / s

Recommended reflow soldering temperature



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Features

- **Precise Printing Capability:** Achieves exceptional tin liquidity, enabling fine printing even with a pad pitch as low as 0.3mm.
- **Consistent Viscosity:** Demonstrates remarkable viscosity stability during continuous printing. Viscosity remains unchanged for extended periods, exceeding 8 hours, while consistently delivering high-quality printing results.
- **Shape Retention:** Maintains its original shape for hours after printing, ensuring that printed graphics remain intact and do not affect surface-mounted components.
- **Excellent Weldability:** Exhibits strong weldability and superior wettability on various substrate materials.
- **Versatile Equipment Compatibility:** Suitable for a wide range of welding equipment, eliminating the need for a nitrogen-filled environment. It delivers excellent welding performance across a broad reflow oven temperature range, compatible with both "heating-temperature-controlled" and "gradual heating" furnace temperature profiles.
- **Washable**: The flux residue is washable after soldering process.
- **Enhanced AOI Performance:** Provides improved performance during Automated Optical Inspection (AOI) tests, reducing false positives and negatives.
- **Effective BGA Soldering:** Solves challenging issues related to BGA (Ball Grid Array) soldering, ensuring reliable and high-quality solder connections.
- **Flux type**: ORL1

Storage and handling:

- Store at a temp range of 2 - 8 °C. The solder paste has a shelf life of six months from the mfg date and it should be managed according to the First In, First Out (FIFO) principle.
- Prior to opening the package, it is essential to allow the solder paste to reach room temperature, which is recommended to take approximately 4 hours. After opening, within a 48-hour period, maintain the paste at a temperature within the specified storage range. During the 12-hour window post-opening, the solder paste should remain on the reflow PCB board to allow for a pre-idle time of 100±20 minutes.
- Cold storage may lead to component separation within the solder paste. Therefore, it is crucial to thoroughly stir the solder paste for 3 to 5 minutes to ensure proper mixing. Recommended stirring methods include automatic stirring for 3±0.5 minutes or manual stirring for 5±1 minute, with a mixer speed of 400 rpm for revolution and 100 rpm for rotation.
- Avoid combining leftover solder paste with new paste in the same container.
- When not in use, reseal the solder paste container securely. If the cap does not provide an adequate seal, replace it while ensuring the sealing liner is correctly positioned for maximum integrity.

Typical Package

500g Bottle or
35g/100g Syringe