LINQALLOY **SP-PSA525** PSA525 Solder Paste



- High thermal fatigue resistance for power semiconductor applications
- Reliable clog-free dispensing
- Superior wetting

LINQALLOY SP-PSA525 is a high-lead solder paste composed of 5% Sn, 92.5% Pb, and 2.5% Ag. This solder paste was designed for die attach processes to ensure clog-free dispensing. It consistently delivers deposits with the right viscosity and particle size using automated dispensing equipment. SP-PSA525 contains high-temperature alloys, which gives it superior wetting capabilities and in turn, allows for the formation of high-strength solder joints. This makes SP-PSA525 suitable for power semiconductor die attach applications.

SP-PSA525 is a **no-clean solder paste**, ideal for applications where post-soldering cleaning is unnecessary, providing minimal, non-conductive residues. In cases where post-soldering cleaning is necessary, the residue of **SP-PSA525** can be easily removed using commercially-available solvents.

Chemical Composition

Element	Sn	Ag	Pb	Cu	As	Fe	Sb	Bi	Ni	AI	Zn	Cd
Concentration [wt%]	5.0±0.5	2.5±0.1	Bal.	≤0.050	≤0.030	≤0.020	≤0.050	≤0.050	≤0.010	≤0.001	≤0.001	≤0.01

Recommended Reflow Process

Preheati	ng Stage	Soakin	g Stage	Reflow	Cooling Stage	
Preheat Rate (° C/s)	Temperature (°C)	Soaking Time (s)	Temperature (° C)	Reflow Time (s)	Peak Temperature (° C)	Cooling Rate (° C/s)
1-3	210	60-180	210-300	40-100	300±10	<4

Recommended Reflow Soldering Temperature Profile



Europe

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Technical Specifications

Property	Value	Standard		
Alloy	Sn5Pb92.5Ag2.5	JIS-Z-3283 EDAX		
Melting Point [°C]	287 [Liquidus]	_		
Powder Type	Туре 3-Туре 5	IPC-TM-650 2.2.14		
Metal Content [wt%]	88	JIS Z 3197		
Flux Content [wt%]	12.0±3	JIS-Z-3284		
Viscosity at 25 °C [Pa·s]	130-170	Malcom PCU 205		
Halogen Content	ROL0/ROL1	JIS Z 3197		
Copper Corrosion Testing	PASSED	JIS Z 3197 (1986) 6.6.1		
Copper Mirror Testing	PASSED	JIS Z 3197		
Surface Insulation Resistance Testing	PASSED	JIS Z 3197		

Precautions for Use

- 1. Maintain a clean, dust-free environment while handling the paste.
- Do not use the paste if frozen. Allow the sealed container to reach room temperature (19 to 25 °C) for 3-4 hours before opening. Avoid forced heating. The viscosity of the solder paste should return to room temperature before use.
- 3. The stirring should be done after the paste returns at room temperature. Stir the solder paste for 1–3 minutes with a machine. If you don't have a machine, you can mix it with fresh solder paste by hand for 1–3 minutes.
- 4. Dispensed solder paste should be used by 8 hours for better quality.
- 5. If unused, refrigerate for at least 12 hours, then re-warm and use for another 24 hours. Repeat this cycle only twice. After use, tightly reseal the container to minimize moisture absorption and oxidation.
- 6. Consider labeling opened containers with the date and time of opening for tracking.

Please note that the provided information is based on available data and typical conditions. For specific applications and detailed test results, refer to the actual test data and conduct appropriate certifications.

Storage and Handling

LINQALLOY SP-PSA525 is typically available in 500 g bottles. Store unopened solder paste at 2 to 10 °C (36 to 50 °F) to prolong shelf life. At proper storage conditions, the shelf life is 6 months from the manufacturing date. Avoid exposure to direct sunlight or extreme temperatures lower than -5 °C to avoid crystallization. Employ First-In, First-Out (FIFO) approach to usage, prioritizing older solder paste to prevent expiration. Transport solder paste in insulated containers to maintain cool temperatures. Solder paste can withstand temperatures of up to 35 °C for 3 months (maximum) during transit.

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