PRODUCT DATA SHEET

Indium510L

Solder Paste

Features

- Specifically designed for laser reflow
- Very fine-pitch print deposition
- Excellent wetting on multiple surfaces (OSP, Immersion Ag, Immersion Sn, ENIG)
- No-clean residue
- Works in both air and nitrogen
- Halogen-free

Standard Product Specifications

Alloy	Particle Size	Metal Load
SAC305	T4 (20–38µm)	86–89%

Recommended Initial Process Settings

Laser/Paste Ratio	Wattage/Time	Metal Load
1/2	4W for 2 seconds	89%
1/1		86%

Higher metal load tends to produce less solder balling and solder splattering.

Packaging

Standard packaging for stencil printing applications includes 500g jars and 600g cartridges. For dispensing applications, 10 and 30cc syringes are standard. Other packaging options may be available upon request.

Storage and Handling Procedures

Refrigerated storage will prolong the shelf life of solder paste. Solder paste packaged in syringes and cartridges should be stored tip down.

Packaging	Storage Conditions (unopened containers)	Shelf Life
Syringe	<-10°C	6 months
Jar/Cartridge	<10°C	6 months

Solder paste should be allowed to reach ambient working temperature prior to use. Generally, paste should be removed from refrigeration at least 2 hours before use. Actual time to reach thermal equilibrium will vary with container size. Paste temperature should be verified before use. Jars and cartridges should be labeled with date and time of opening.

Compatible Products

- **Rework Flux**: TACFlux® 020B, TACFlux® 089HF
- **Cored Wire**: CW-807
- **Wave Flux**: WF-7745, WF-9945

Bellcore and J-STD Tests and Results

Test	Result	Test	Result
J-STD-004 (IPC-TM-650)		**J-STD-005 (IPC-TM-650)**	
Flux Type (per J-STD-004A)	ROL0	Solder Paste Viscosity (Indalloy®256, 88%, Type 4) Brookfield (5rpm)	900kcps (typical)
Elemental Analysis for Cl	<.05% (ND)	Slump Test	Pass
Elemental Analysis for Br	<.05% (ND)	Solder Ball Test	Pass
Post-Reflow Flux Residue (ICA Test)	<5% of solder paste	Typical Tackiness	50g (typical)
SIR (Ohms)	Pass (>10^8 at 85°C and 85% RH)	Wetting Test	Pass

All information is for reference only.
Not to be used as incoming product specifications.

From One Engineer To Another®

INDIUM CORPORATION®

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Printing

Stencil Design:

Electroformed and laser cut/electropolished stencils produce the best printing characteristics among stencil types. Stencil aperture design is a crucial step in optimizing the print process. The following are a few general recommendations:

- Discrete components—A 10–20% reduction of stencil aperture has significantly reduced or eliminated the occurrence of mid-chip solder beads. The "home plate" design is a common method for achieving this reduction.
- Fine-pitch components—A surface area reduction is recommended for apertures of 20mil pitch and finer. This reduction will help minimize solder balling and bridging that can lead to electrical shorts. The amount of reduction necessary is process-dependent (5–15% is common).
- For optimum transfer efficiency and release of the solder paste from the stencil apertures, industry standard aperture and aspect ratios should be adhered to.

Recommended Printer Operation

Solder Paste Bead Size	20–25mm in diameter
Print Speed	25–150mm/second
Squeegee Pressure	0.018–0.027kg/mm of blade length
Underside Stencil Wipe	Start at once per every 5 prints and decrease frequency until optimum value is reached
Squeegee Type/Angle	Metal with appropriate length/~45 degrees
Separation Speed	5–20mm/second or per equipment manufacturer's specifications
Solder Paste Stencil Life	Up to 8 hours (at 30–60% RH and 22–28°C)

Cleaning

Indium510L is designed for no-clean applications; however, the flux can be removed, if necessary, by using a commercially available flux residue remover.

Stencil Cleaning is best performed using isopropyl alcohol (IPA) as a solvent. Most commercially available stencil cleaners also work well.

Technical Support

Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Materials Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder preforms, wire, ribbon, and paste. Indium Corporation's Technical Support Engineers provide rapid response to all technical inquiries.

Safety Data Sheets

The SDS for this product can be found online at http://www.indium.com/sds

Contact our engineers: askus@indium.com
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