

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	SAC305
Particle Size	T4 (20-38µ)
Metal Load	86%-89%

Recommended Initial Process Settings

1/2 Laser to Paste Ratio	4W for 2 seconds	89% ML
1/1 Laser to Pad Ratio	4W for 2 seconds	86% ML

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, 10cc and 30cc syringes are standard. Other packaging options may be available upon request.

Storage and Handling Procedures

The shelf life of **Indium510L** is no less than 6 months at <10°C. Solder paste packaged in syringes and cartridges should be stored tip down.

Solder paste should be allowed to reach ambient working temperature prior to use. Generally, paste should be removed from refrigeration at least two 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



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J-STD TESTS & RESULTS

Test	Result	Test	Result
J-STD-004 (IPC-TM-650) <ul style="list-style-type: none"> • Flux Type (per J-STD-004A) • Elemental Analysis for Cl • Elemental Analysis for Br • Post Reflow Flux Residue (ICA Test) • SIR (Ohms) 	ROLO < .05% (ND) < .05% (ND) <5% of solder paste Pass (>10° @ 85°C, 85% R.H.)	J-STD-005 (IPC-TM-650) <ul style="list-style-type: none"> • Solder Paste Viscosity (#256 88% Type 4) Brookfield (5 rpm) • Slump Test • Solder Ball Test • Typical Tackiness • Wetting Test 	900 Kcps (typical) Pass Pass 50 grams (typical) Pass

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

Form No. 99196 R0

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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 20 mil 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.

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.

Safety Data Sheets

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

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)

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