Indium8.9HF SOLDER PASTE

Looking for an SMT solder paste that has superior printing and voiding performance?

Prefer to use one that is in volume production today?

Want it to be stable at room temperature and on the stencil?

Find the solution inside.

From One Engineer To Another®

INDIUM® CORPORATION®

Indium8.9HF – Versatile and Stable

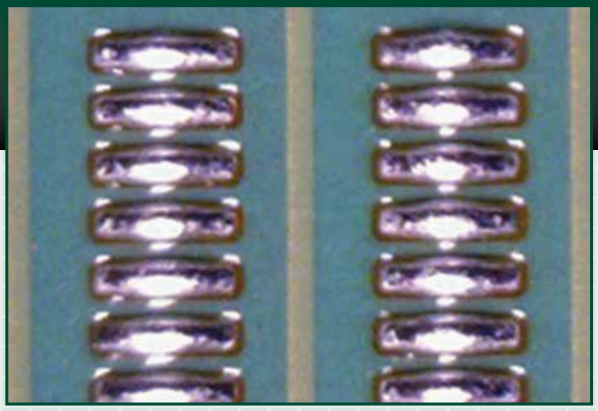
Features:

- In high-volume production today
- Halogen-free, Pb-free, no-clean solder paste
- High transfer efficiency with low variability
  - – Outstanding broadband print transfer
  - – Excellent response-to-pause performance
- Unique resilient oxidation barrier technology
  - – Eliminates HIP defects
  - – Eliminates graping
- Robust reflow capability
  - – Wide processing window accommodates various board sizes and throughput requirements, and minimizes potential defects
  - – Low voiding with a vast array of thermal profiles
- Excellent pin-in-paste solderability and hole fill
- Clear, restricted, encapsulating flux residue with high reliability
- Consistent performance after storage and throughout assembly process

	Traditional Solder Pastes	Indium8.9HF
Refrigerated Shelf Life (<10°C)	6 months	1 year
Usage Life at 25° C	<24 hours	30 days
Stencil Life (22-28°C & 30-60RH)	>8 hours	60 hours

- **Longer shelf life**
- **Stable at room temperature**
- **Longer stencil life**

On the Stencil



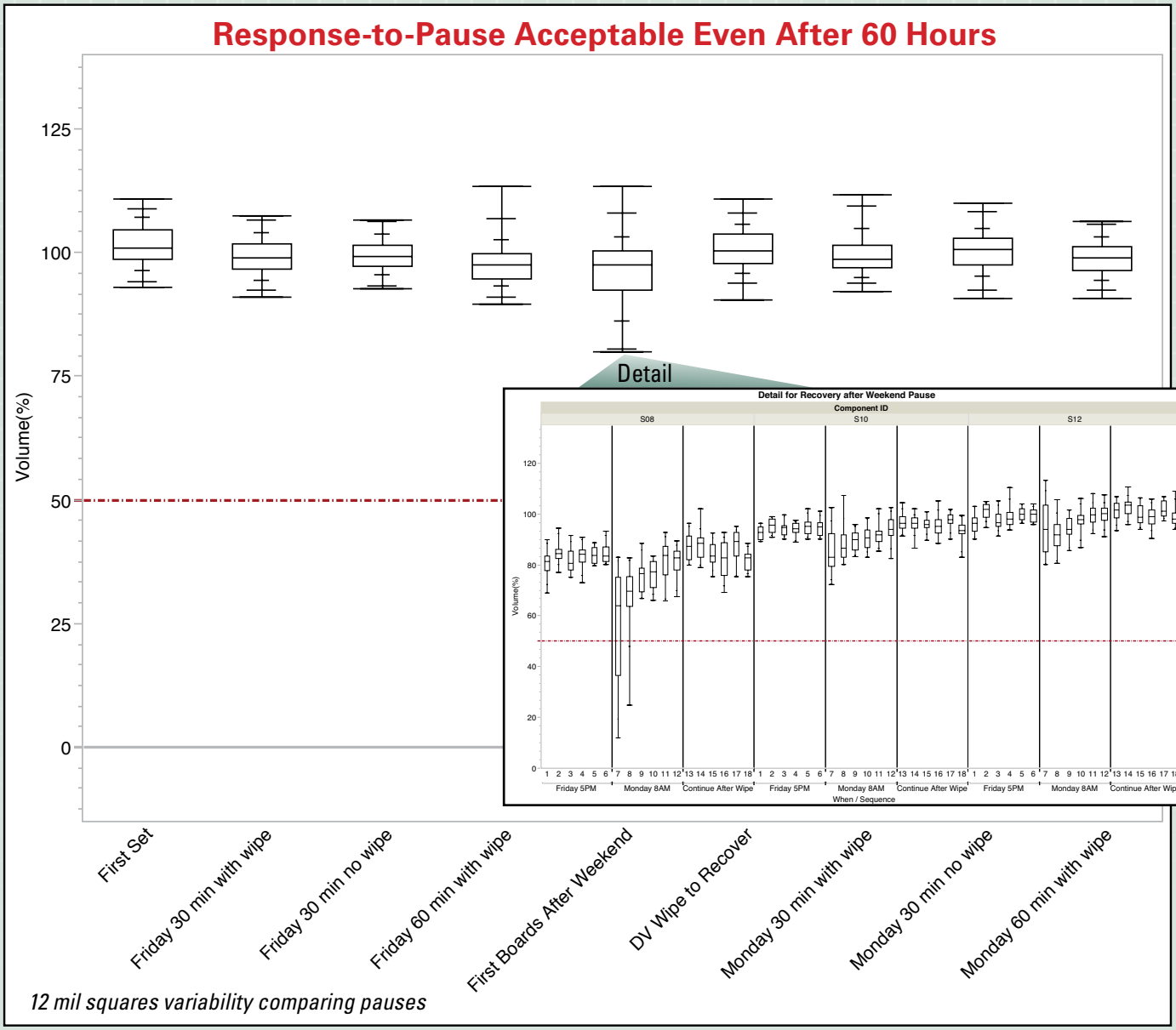
Consistent solder joints.

Once a bead of paste has been added to the stencil, regardless of pause times, how long will this bead of paste perform?

Test Procedure:

A two-hour response-to-pause procedure was performed on a Friday. A bead of Indium8.9HF was left on the stencil over the weekend. The same procedure was repeated with no replenishment or conditioning when printing was resumed Monday morning.

Each box plot combines the results from a set of six boards; lines show quantiles. The detailed plot shows the results for each board from the time before and after the weekend pause.



12 mil squares variability comparing pauses

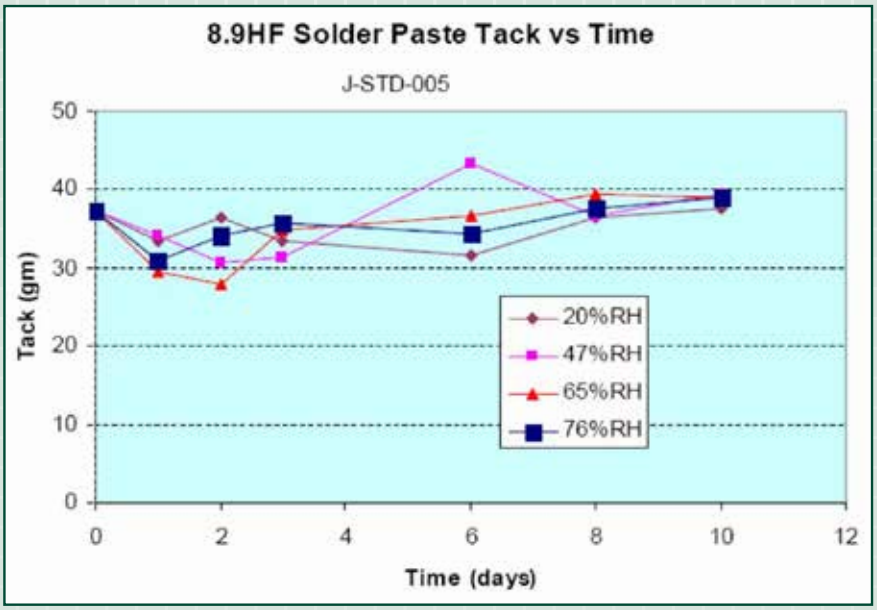
On the Counter

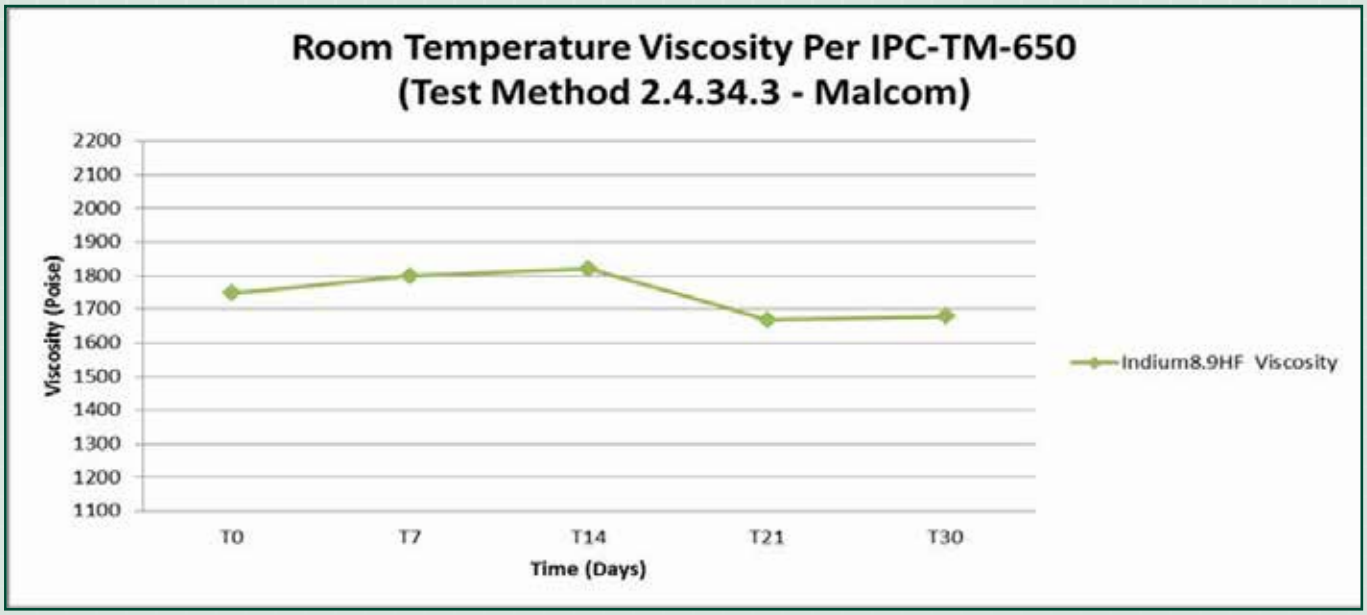
A closed jar is taken out of the refrigerator and allowed to reach room temperature. How long can it stay on the counter and still be usable?

Test Procedure:
Consistent results after one month at room temperature (<30°C).

Note: It is important to keep the jar closed at all times. Before printing, the solder paste is gently stirred.

- **No change in viscosity**
- **Maintains excellent printing and reflow performance**





- Time = 0, 7, 14, 21, and 30 days @ 25˚C (±1˚C)
- Conditioned paste @ 30˚C prior to viscosity testing
- Viscosity variation

In the Fridge

Solder paste is stored in a refrigerator or freezer. How does performance change as it nears the end of its shelf life?

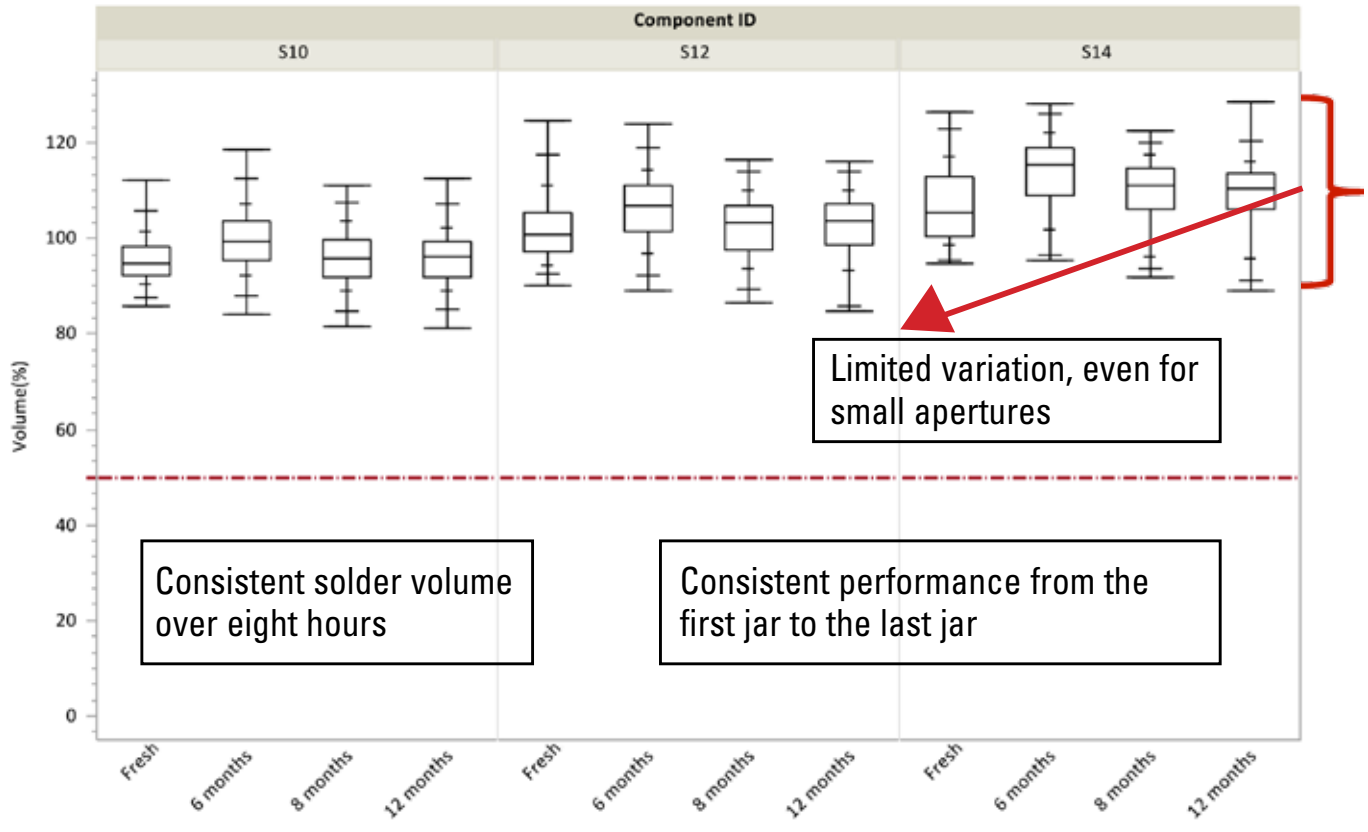
Test Procedure:

Eight-hour print tests were run at each storage interval (one bead of paste, 100+ boards printed).

Box plots show a summary of the variation over many boards with quantiles.

Impressive repeatability, showing the same excellent printing performance after a year in refrigerated storage.

Printing is the same whether the solder paste is brand new or at the end of its shelf life



Transfer Efficiency for Square Apertures vs. Time in refrigerator <10°C

Area Ratio Chart (mils)											
Aperture Size (mils)	6	7	8	9	10	11	12	13	14	15	16
Aperture Size (µm)	152.40	177.80	203.20	228.60	254.00	279.40	304.80	330.20	355.60	381.00	406.40
Stencil Thickness 4 mil	0.38	0.44	0.50	0.56	0.63	0.69	0.75	0.81	0.88	0.94	1.00

Locations Worldwide

- Electronics Assembly Materials
- Engineered Solders & Alloys
- Metals & Compounds
- Metal Thermal Interface Materials
- Nanotechnology
- Semiconductor Assembly Materials
- Solar Energy Materials

Our Goal

Increase our customers' productivity and profitability through premium design, application, and service using advanced materials.

Our basis for success:

- *Excellent product quality and performance*
- *Technical and customer service*
- *Cutting-edge material research and development*
- *Extensive product range*
- *Lowest cost of ownership*

ISO 9001 REGISTERED

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