

PRODUCT DATA SHEET

Indium5.79

PoP Paste

Introduction

PoP Paste Indium5.79 is a no-clean solder paste designed for use in package-on-package and finer-pitch (0.4mm and larger) BGA rework applications. **PoP Paste Indium5.79** has a rheology designed to provide a long-lasting dipping process.

Features

- Eliminates defects due to package warping
- Air reflow
- Rheology optimized for both dipping and package retention
- Designed for use with SAC305
- Excellent solderability
- Long pot life
- Suitable for use down to 0.4mm pitch
- High metal load (>85%w/w) reduces slump/spread

Properties

	Value	Test Method
Flux Type Classification	ROL1	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	270kcps	ANSI/IPC-TM-650
SIR (Ohms, after reflow)	Pass (>10 ⁸ after 7 days @ 85°C and 85% RH)	ANSI/IPC-TM-650
Typical Tack Strength	90g	ANSI/IPC-TM-650
Shelf Life (sealed)	4 months at <10°C	-20–5°C
Working Life	8 hours at room temperature (<30°C, <70% RH)	Internal test method

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

Application

Solder paste is applied to the spheres in a doctor-bladed dipping process (Figure 1).

- Typical package-on-package applications only need dipping to 25–45% of the sphere height
- A BGA rework process typically calls for 35-65% of the sphere height

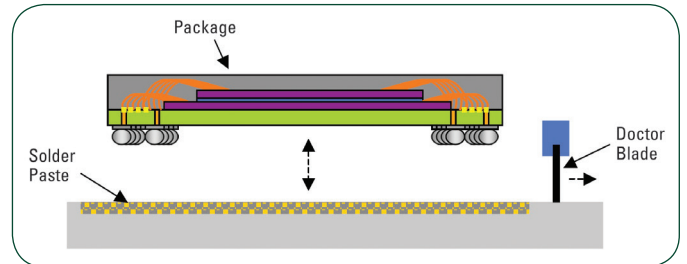


Figure 1. Dipping process.

Care must be taken to avoid contaminating the bottom of the package itself with PoP paste, as this may cause bridging defects. Note that BGA rework usually requires more paste, since some of the volume of the solder sphere is lost during the removal and pad-cleaning process.

Consistent solder paste volumes are reproducibly attained from dipping 0.4mm or higher pitch packages in the **PoP Paste Indium5.79**. Figure 2 shows one example from a customer PoP process, where a 0.5mm pitch BGA package has been dipped in 8mil thickness (~50% of ball height) **PoP Paste Indium5.79**.

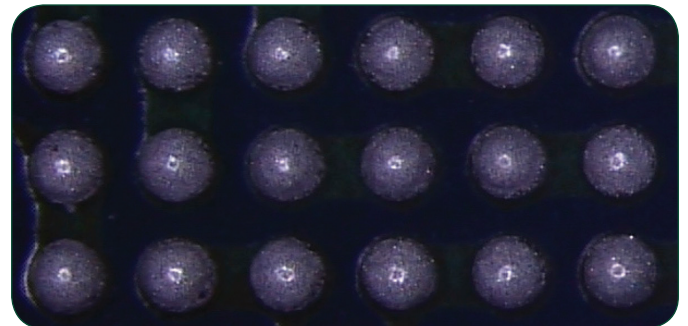


Figure 2. Bottom view of 0.5mm pitch BGA package after dipping in PoP Paste Indium5.79.

From One Engineer To Another®



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Alloys

PoP Paste Indium5.79 is available only with SAC305 (96.5Sn/3.0Ag/0.5Cu). The following table shows the alloy properties:

Indalloy® Number	Alloy Composition	Melting Point		Melting Point		Density g/cm ³	Tensile Strength psi	Young's Modulus psi*10 ⁶	Elongation %
		Liquidus (°C)	Solidus (°C)	Liquidus (°C)	Solidus (°C)				
256	96.5Sn/3.0Ag/0.5Cu	220	217	428	423	7.40	7,200	2.41	19.3

Cleaning

Although designed as a no-clean material, the residue from the PoP Paste Indium5.79 may be cleaned using appropriate cleaning solutions. Please consult with Indium Corporation Technical Support staff for details.

Packaging

PoP Paste Indium5.79 is available in airless (bubble-free) packaging. For automated dispense applications:

- 100g (30cc) syringes with an air-pressure plunger
- Other packaging may be available to meet specific requirements. Consult with Indium Corporation Sales or Technical Support staff for details.

Storage and Handling

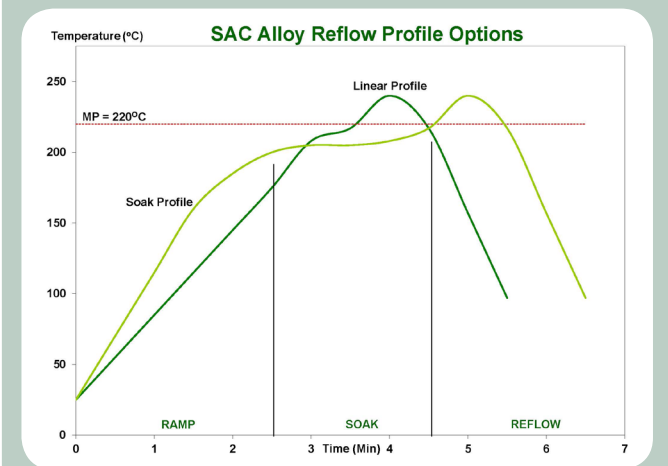
PoP Paste Indium5.79 syringes and cartridges should be stored tip down at <10°C for a maximum of 4 months. Storage temperatures should not exceed 30°C for more than 4 days. PoP Paste Indium5.79 should be allowed to stand for at least 4 hours at room temperature before using.

Once removed from cold storage, the solder paste in a sealed syringe may remain at room temperature for up to 7 days before usage and during usage. However, once outside the syringe, its working life is estimated to be 8 hours, and may be less under high temperature (>25°C) and humidity (>70%RH) conditions.

The paste should not be subjected to multiple cold/heat cycles, or viscosity changes and/or flux separation may occur.

Reflow

Recommended Profile:



A short preheat (150–160°C) for less than 45 seconds may be used to reduce solder balling caused by excess paste. The profile should ideally be a linear ramp at 1–2°C/second up to 20–30°C above solidus temperature, with a rapid cool-down afterwards, and a minimum time above liquidus of 20 seconds.

Technical Support

Indium Corporation sets the industry standard in providing rapid response, onsite technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of Materials Science and Semiconductor Packaging process applications.

Safety Data Sheets

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

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices. All Indium Corporation's products and solutions are designed to be commercially available unless specifically stated otherwise.

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified. Indium Corporation is an ISO 9001:2015 registered company.

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