

PRODUCT DATA SHEET

PicoShot® NC-5M

Jetting Solder Paste



Introduction

Indium Corporation's **PicoShot® NC-5M** jetting solder paste is a no-clean, halogen-free material specifically formulated to be compatible with Mycronic jetting systems. Inherently chemically-compatible with Indium8.9HF Solder Paste, **PicoShot® NC-5M** is optimized for long-term jetting. **PicoShot® NC-5M** provides exceptional jetting performance, and its unique oxidation barrier promotes complete powder coalescence during reflow to eliminate graping and similar reflow issues.

Features

- Developed in association with Mycronic for their MY series jetting systems
- Exceptional jetting performance
 - Capable of smallest dot volume for pastes in same class: 7.5nl/dot, 360µm diameter
 - Precision deposit (x, y) targeting
 - Long usage (syringe) life >8 hours
 - Minimal satellites
- Compatible with Indium8.9HF Solder Paste series
- No-clean paste meets IPC J-STD-004B with Amendment 1 ROL0 requirements
- Exceptional electrical reliability
 - SIR and ECM exceed IPC standards
- Unique flux oxidation barrier promotes complete powder coalescence during reflow
 - Minimizes graping
- Clear residue with minimal flow-out
- Reduces head-in-pillow (HIP) defects
- Minimal reflow spatter compared to similar solder pastes

Packaging

- **PicoShot® NC-5M** is available as a single part number:
 - PASTEOT-801765 SAC305 PicoShot® NC-5M TYPE 5, 85.0%
- Paste is available airlessly packaged in specialty 30cc syringes to suit Mycronic equipment, at 100g/syringe

Jetting Settings

- Optimized for MY600 and 700 systems
- Ejector type:
 - AG04 (atmospheric pressure)
 - AG01 (above 1,000m elevation)
- Cassette model for this paste is set by a barcode supplied by Mycronic

Storage and Handling

Refrigerated storage will prolong the shelf life of solder paste. Solder paste packaged in syringes 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 2 hours before use. Actual time to reach thermal equilibrium will vary with container size and ambient conditions such as local air flow. Paste temperature should be verified before use. Non-refrigerated syringes have a minimum syringe open time of 48 hours. If a non-refrigerated syringe is returned to refrigeration, please respect the time to reach ambient temperature prior to use. For a storage condition between 1–10°C, this product has a 3 month shelf life.

Standard Product Specifications

Industry Standard Test Results and Classification			
Flux Classification	ROL0	Typical Solder Paste Viscosity (Malcom) for SAC305 T5 (Poise)	570
Based on the testing required by IPC J-STD-004B with Amendment 1		Conforms with all requirements from IPC J-STD-005A	
Halogen-free per IEC 61249-2-21, Test Method EN14582	<900ppm Cl <900ppm Br <1,500ppm Total		

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

Storage Conditions (unopened syringes)	Shelf Life
<-10°C	6 months
1–10°C	3 months

From One Engineer To Another®



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Cleaning

PicoShot® NC-5M is designed for no-clean applications; however, the flux can be removed, if necessary, using commercially available flux residue cleaners. Indium Corporation's Technical Support team can advise, as needed.

Complementary Products

- **Equipment Conditioner:** PicoShot® Conditioner C-1
- **Solder Paste:** Indium8.9HF
- **Rework Flux:** TACFlux® 020B-RC
- **Tacky Flux:** TACFlux® 089HF
- **Cored Wire:** CORE 230-RC
- **Wave Flux:** WF-9945, WF-9958

Technical Support

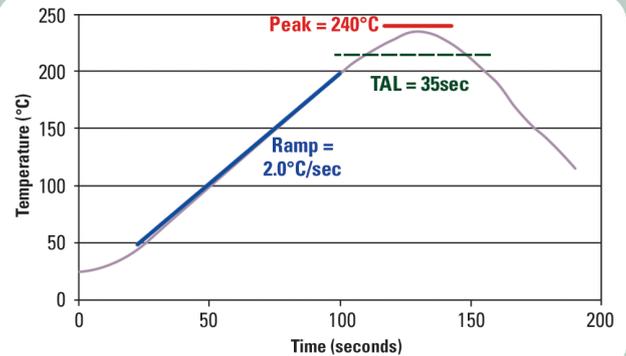
Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Materials Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder properties,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

Safety Data Sheets

Please refer to the SDS document within the product shipment, or contact our local team to receive a copy.

Reflow

Recommended Profile:



Standard ramp-to-spike (linear) profile is preferred.

- Preheat ramp rate
 - 1.8–2.2°C/second is typical
 - Avoid using profiles with a plateau temperature above 180°C, to prevent excessive flux burn-off
- Peak temperature
 - 235–245°C
- Time above liquidus
 - 30–40 seconds
- Ambient to peak
 - 2–3 minutes
- Atmosphere
 - Designed for air reflow
 - Nitrogen (<200ppm O₂) may be used to enhance wettability onto challenging surfaces, but will generally not be needed

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.

Contact our engineers: askus@indium.com

Learn more: www.indium.com

ASIA +65 6268 8678 • CHINA +86 (0) 512 628 34900 • EUROPE +44 (0) 1908 580400 • USA +1 315 853 4900



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