

PRODUCT DATA SHEET

TACFlux® 010

Introduction

TACFlux® 010 is a NIA halogen-free, no-clean flux, which is designed to leave a completely benign, ultra-low clear residue. The reduction in residue optimizes underfill adhesion and decreases possible outgassing during underfill cure.

Features

- Halogen-free—no intentionally added (NIA) halogens
- Suitable for Pb-free, SnPb, and high-Pb alloys
- Designed for die-attach, flip-chip, and rework applications
- Ultra-low residue
- Bubble-free (airless) packaging

Properties

	Value	Test Method
Flux Classification	ORL0	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Color	Light yellow	Visual
Typical Viscosity	10kcps	Brookfield HB DVIII+-CP (5rpm)
SIR (Ohms)	Pass (>10 ⁸ after 7 days @ 85°C and 85% RH)	J-STD-004 (IPC-TM-650: 2.6.3.3 IPC-B-24)
Typical Acid Value	31mg KOH/g	Titration
Typical Tack Strength	250g	J-STD-005 (IPC-TM.650: 2.4.44)
Shelf Life	1 year (0–30°C)	Viscosity change/ microscope examination
Typical Post-Reflow Residual Weight	4%	TGA

All information is for reference only.

Not to be used as incoming product specifications.

Application

TACFlux® 010 is intended to be used in a nitrogen reflow environment of 100ppm oxygen or less. Some applications can utilize this material in an air environment, although best results will be obtained in an inert atmosphere. **TACFlux® 010** can be used on many surface finishes including Immersion Ag, Cu-OSP, AuNi, and AuPdNi, and is compatible with all standard flip-chip solders.

Compatibility

The compatibility of flip-chip flux residues with epoxy-based capillary underfills is determined by measuring the shear strength of the interface between the post-reflow flux and the cured underfill. The best results for **TACFlux® 010** have been observed with both amine- and acid anhydride-based capillary underfill chemistries.

Cleaning

TACFlux® 010 is designed for no-clean applications. If necessary, the flux can be removed by using a commercially available flux cleaner. Please contact an Indium Corporation Technical Support Engineer for recommendations of cleaners to suit your process needs.

Storage

TACFlux® 010 syringes and cartridges should be stored tip down at 0–30°C for maximum shelf life. **TACFlux® 010** should be allowed to reach ambient temperature before use.

Packaging

TACFlux® 010 is most commonly available in 10 and 30cc syringes. Other packaging can be provided to meet specific requirements.



From One Engineer To Another®



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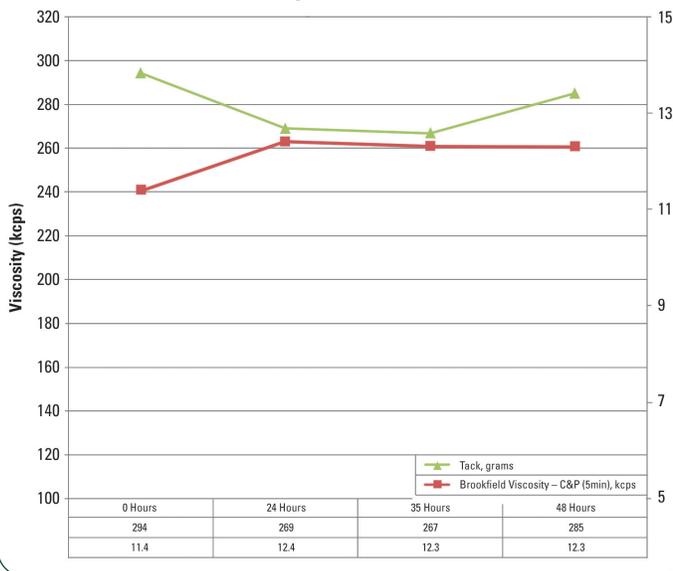
TACFlux® 010

Usage Life

Experience of several customers has shown that the usage life (pot life) of **TACFlux® 010** exceeds 8 hours in many die-dipping and flip-chip flux applications. Both viscosity and tack data indicate that the rheology of the flux is stable for prolonged periods, and may be usable much beyond the 8-hour period, but this will depend on customer usage. The usage life of the flux will decrease under the following conditions:

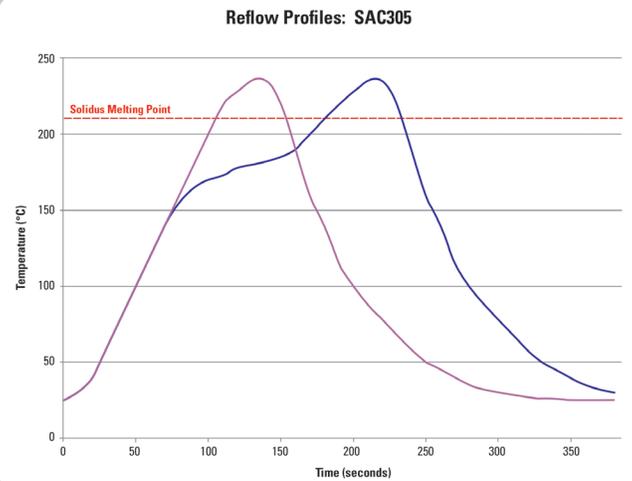
- Small dip height (thin-film)
- High ambient temperatures
- High air flow over the flux

Viscosity and Tack Over Time



Reflow

Recommended Profile:



A short preheat (150–160°C) for less than 45 seconds may be used to reduce voiding. 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’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

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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