PRODUCT DATA SHEET

WS-910

Flip-Chip Flux

Introduction

WS-910 Flip-Chip Flux is a water-soluble flip-chip dipping flux which has been formulated to meet the challenges of cutting-edge flip-chip assembly. The flux has been formulated to mitigate non-wet open defects and to provide best-in-class residue cleaning for a water-soluble flip-chip flux, allowing for excellent compatibility with molded and capillary underfill. **WS-910** also offers high tackiness for a flip-chip flux, useful when holding large die in place during the reflow process.

Features

- Halogen-free
- Compatible with a wide variety of CUF/MUF
- Promotes excellent solderability onto a wide range of surfaces
- Excellent cleaning with room temperature DI water
- Designed for Pb-free applications
  - Suitable for all high-Sn solders
- Ensures consistent yields through consistent dipping performance over extended periods
- High tackiness minimizes non-wet opens and "cold joints"

Properties

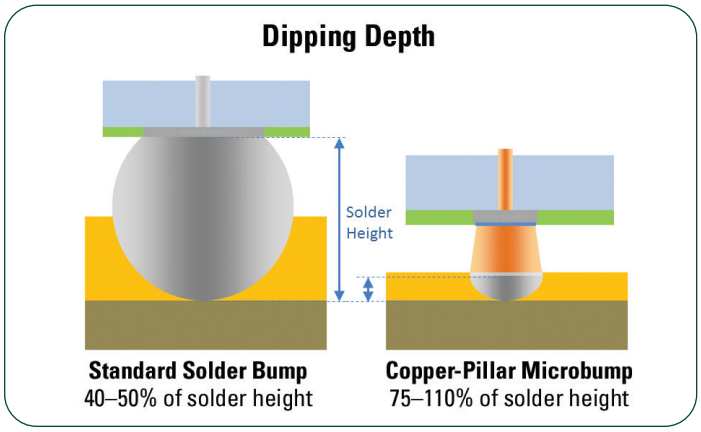
	Value	Test Method
Flux Type Classification	ORH0	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	21.5kcps	Brookfield HB DVII±CP (5 minutes)
Typical Acid Value	90.6mg KOH/g	Titration
Typical Tack Strength	298gf	J-STD-005 (IPC-TM.650: 2.4.44)
Shelf Life	6 months at 0–30°C	Viscosity change/ microscope examination

Application

The amount of flux deposited on the substrate can be optimized by changing equipment parameters. Key variables include temperature, flip-chip bump dimensions, shear speed, time of shearing before dipping, dwell time in flux, and depth of immersion. The flux rheology can be optimized for the desired application by shearing to achieve the desired viscosity. Humidity must be kept at <60% R.H.

Flip-Chip Flux Dipping Process

The dipping depth should be adjusted to exact needs. Guidelines are given in the illustration below. The flux reservoir (dip tray) should be cleaned and replenished every shift.



Cleaning

WS-910 residue can be cleaned with DI water, or water with an added cleaner. Ideal conditions for spray-cleaning: 25°C (room temperature) to 40°C for >2 minutes at 60psi or higher.

From One Engineer To Another®

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Packaging

WS-910 is available airlessly packaged in 10 and 30cc syringes, and is also available in jars or cartridges on customer request.

Storage

For maximum shelf life, **WS-910** syringes and cartridges should be stored tip down. Storage temperatures should not exceed 30°C. If using cold storage, **WS-910** should be allowed to stand for at least 4 hours at room temperature before using. Cold storage will extend the shelf life of the flux slightly.

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

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

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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