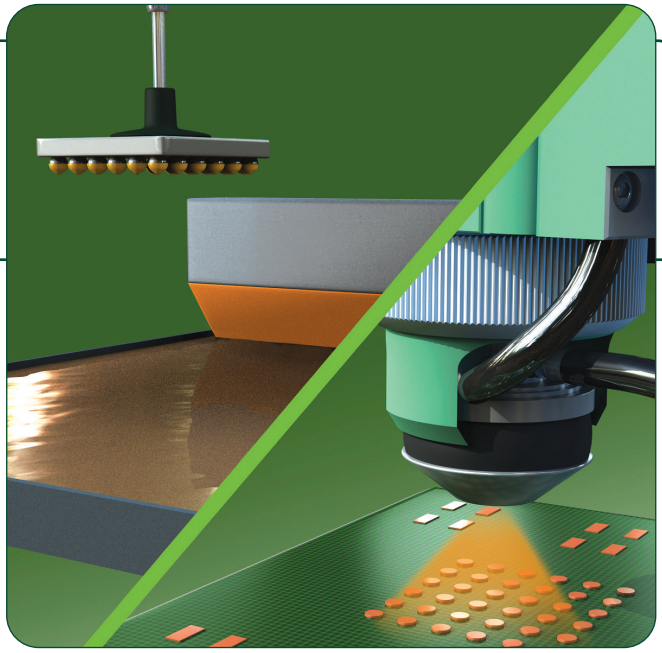
PRODUCT DATA SHEET

WS-580

Flip-Chip Flux



Introduction

Flip-Chip Flux WS-580 is a NIA halogen-free water washable flip-chip dipping flux, which has an activator system powerful enough to promote wetting on the most demanding substrate metallizations.

Features

- Halogen-free – no intentionally added (NIA) halogens
- Designed for flip-chip dipping applications
- Excellent solderability on a variety of metallizations
- Reduces flip-chip voids
- Uniform dipping performance over extended periods
- Tackiness suitable for holding large die during assembly
- Bubble-free packaging

Properties

Property	Value	Test Method
Flux Classification	MO	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	18kcps	Brookfield HB DVII+-CP @ 5rpm after 5 min
SIR (Ohms, after cleaning)	Pass (>10^8 after 7 days @ 85°C & 85% RH)	J-STD-004 (IPC-TM-650: 2.6.3.3 IPC-B-24)
Typical Acid Value	93mg KOH/g	Titration
Shelf Life	0 to 30°C for 6 months	Viscosity Change/ Microscope Examination

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

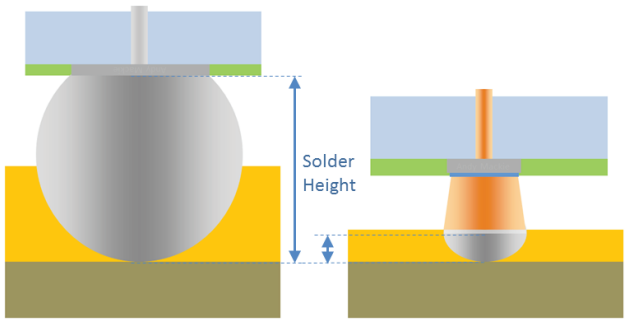
Application

WS-580 is intended to be used in an air or nitrogen reflow environment of 100ppm oxygen or less. **WS-580** can be used on many surface finishes including immersion Ag, Cu, and Ni. **WS-580** has been developed to allow tin and tin/silver solderbumps, in both standard bump shapes and as microbumps on copper pillars, to solder well to any quality of substrate metallization. **WS-580** also allows poor quality OSP to be soldered, without non-wet-open solder joints.

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.

Dipping Depth



Standard solder bump
40–50% of solder height

Copper pillar microbump
75-110% of solder height

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Cleaning

WS-580 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 >one minute at 60psi or higher.

Packaging

WS-580 is available airlessly packaged in 10cc and 30cc syringes, and is also available in jars or cartridges, on customer request.

Storage

For maximum shelf life, **WS-580** syringes and cartridges should be stored tip down. Storage temperatures should not exceed 30°C. If using cold storage, **WS-580** should be allowed to stand for at least four hours at room temperature before using.

Technical Support

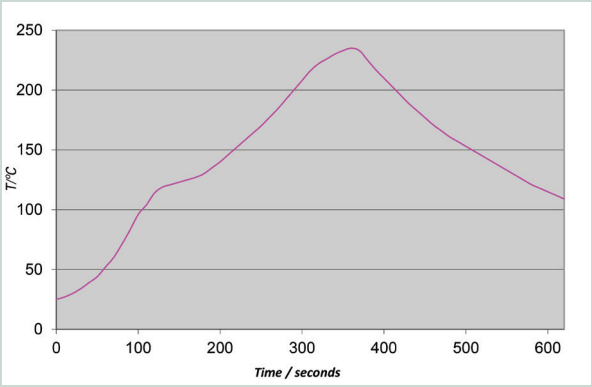
Indium Corporation sets the industry standard in providing rapid response, on-site technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of materials science and semiconductor packaging process applications.

Safety Data Sheets

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

Reflow

Recommended Profile:



Flip-Chip Flux WS-580 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. **Flip-Chip Flux WS-580** can be used on many surface finishes.

Contact our engineers today: askus@indium.com
Learn more: www.indium.com

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