

# PRODUCT DATA SHEET

# WS-575

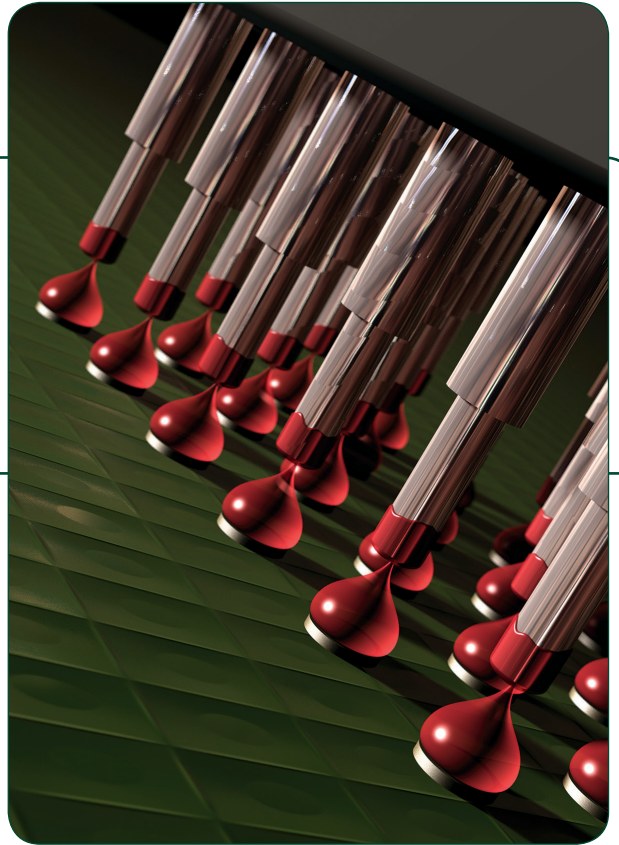
## Ball-Attach Flux

### Introduction

**Ball-Attach Flux WS-575** is a thixotropic flux designed for use in pin transfer applications for ball-attachment to substrates (BGA manufacturing). Its rheology is specifically designed for use with even the smallest gravity-fed spheres. **WS-575** has an activator system powerful enough to promote wetting on the most demanding substrate metallizations. The flux is a distinctive red color, which aids automated level-sensing equipment and also enhances visual inspection.

### Features

- Halogen-free
- Air reflow
- Designed for Pb-free applications
- Excellent solderability on a variety of surfaces
- Water-wash
- Bubble-free packaging
- Flux rheology applicable for spheres 50–762 microns
- Uniform pin transfer over extended periods
- Red color for ease of detection



### Properties

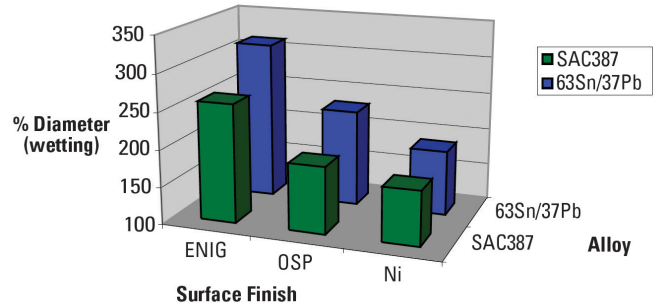
	Value	Test Method
Flux Classification	M0	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	12.5kcps	Brookfield HB DVII+-CP (5rpm)
SIR (Ohms)	>10 <sup>8</sup>	J-STD-004 (IPC-TM-650: 2.6.3.3 IPC-B-24)
Typical Acid Value	60mg KOH/g	Titration
Typical Tack Strength	200g	J-STD-005 (IPC-TM.650: 2.4.44)
Shelf Life	6 months (0–30°C)	Viscosity change/ microscope examination

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

### Application

The amount of flux deposited on the substrate can be optimized by changing equipment parameters. Key variables include pin shape, pin diameter, shear speed, dwell, and depth of immersion. The flux rheology can be optimized for the desired application by shearing to achieve the desired viscosity.

### Solder Wetting Test



### Cleaning

**WS-575** residue can be cleaned with DI water, or water with an added cleaner. Ideal conditions for spray-cleaning: 25°C (room temperature) or higher for >1 minute at >60psi.

**From One Engineer To Another®**



## PRODUCT DATA SHEET

# WS-575 Ball-Attach Flux

### Packaging

WS-575 is available in 150g cartridges. Other packaging can be provided to meet the customer's specific requirements.



### Storage

For maximum shelf life, WS-575 syringes and cartridges should be stored tip down at 0–30°C. After removing from cold storage, WS-575 should be allowed to stand for at least 4 hours at room temperature before using.

### Technical Support

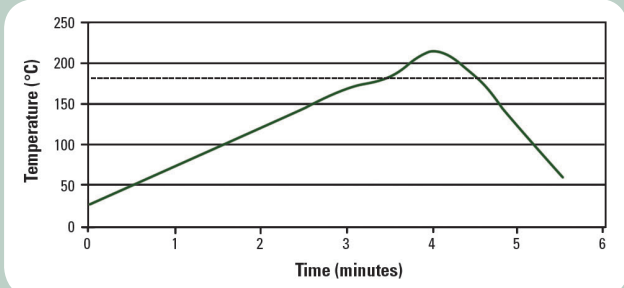
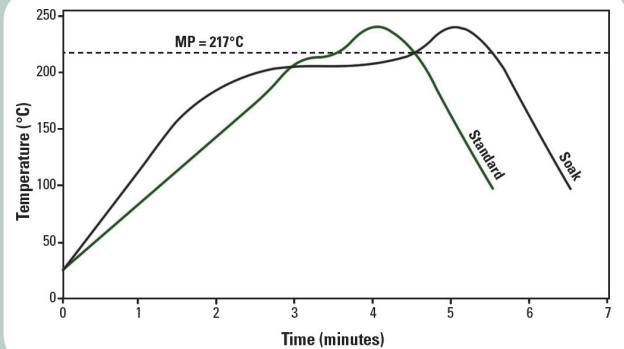
Indium Corporation sets the industry standard in providing rapid response, onsite technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of Materials Science and Semiconductor Packaging process applications.

### Safety Data Sheets

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

### Reflow

#### Recommended Profile:



Peak reflow temperature should be <350°C in an air or nitrogen atmosphere (<500ppm O<sub>2</sub>), with a linear ramp up to 30°C above liquidus temperature. These profiles are recommended to the user as starting points, and should be optimized by the user to meet their individual process needs.

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.

Contact our engineers: [askus@indium.com](mailto:askus@indium.com)

Learn more: [www.indium.com](http://www.indium.com)

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

ISO 9001  
REGISTERED



©2019 Indium Corporation