

## PRODUCT DATA SHEET

# WF-7742 VOC-Free

## Wave Solder Flux

### Introduction

**WF-7742** is a VOC-free, no-clean flux specifically developed for Pb-free wave soldering of surface mount, mixed-technology, and through-hole electronic assemblies.

**WF-7742** is a water-based, nonflammable formulation dramatically reducing VOC emissions and eliminating special storage requirements. A wide process window provides excellent solderability on difficult-to-solder assemblies and reduces solder balling.

### Features

- Excellent surface wetting
- Eliminates cleaning
- Wide process window
- Use with Pb-free and SnPb assembly processes
- The SIR is compliant with IPC J-STD-004A

### Physical Properties

| Test                                               | Result                             |
|----------------------------------------------------|------------------------------------|
| Color                                              | Clear                              |
| Specific Gravity<br>@25°C (77°F)<br>@15.5°C (60°F) | 1.014<br>1.014                     |
| Acid Value                                         | 36                                 |
| Solids Content                                     | 5.76                               |
| Flash Point (°F TCC)                               | None                               |
| J-STD-004A Flux Type                               | ORLO                               |
| Shelf Life                                         | 18 months from date of manufacture |

### Packaging

- 5-gallon containers
- 55-gallon drums

### Safety

**WF-7742** is a nonflammable material. Standard handling precautions should be observed when handling this material.

### Process Recommendations

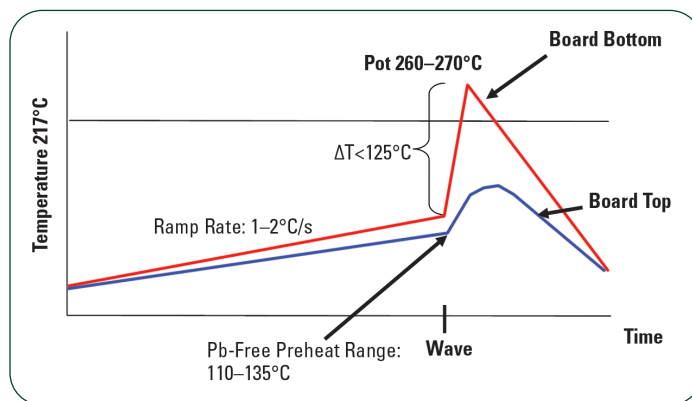
**WF-7742** should be applied by atomizing or ultrasonic spray for best results. Topside board temperatures can range from 110–135°C depending on equipment capability and assembly requirements. Contact with the solder wave can be as long as 5 seconds. Preheat temperature should be adjusted to ensure complete water removal before contact with the solder wave.

A thin uniform flux deposition of 1,000–1,500 micrograms per square inch of flux solids should be applied as a starting point.

Because **WF-7742** is water-based, it does not require frequent acid value monitoring. If thinning is required, deionized water should be used.

**WF-7742** may freeze if exposed to temperatures below 0°C (32°F). If the flux becomes frozen, bring to room temperature until thawed and agitate. The material is not affected by freezing.

### WF-7742 Recommended Profile for Pb-Free Wave Soldering



### 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 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.



**From One Engineer To Another®**

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### IPC Surface Insulation Resistance Test

| Test Pattern | Boards       | 24 Hours*             | 96 Hours*             | 168 Hours*            |
|--------------|--------------|-----------------------|-----------------------|-----------------------|
| IPC-B-24     | Control      | $2.95 \times 10^{13}$ | $2.08 \times 10^{13}$ | $1.56 \times 10^{13}$ |
|              | Pattern Up   | $8.93 \times 10^9$    | $9.10 \times 10^9$    | $6.28 \times 10^9$    |
|              | Pattern Down | $1.32 \times 10^9$    | $2.71 \times 10^9$    | $3.19 \times 10^9$    |

\*All readings expressed in Ohms

### IPC ECM/Telcordia EM Resistance Test

| Test Pattern | Boards       | 96 Hours*             | 596 Hours*            |
|--------------|--------------|-----------------------|-----------------------|
| IPC-B-25A    | Control      | $9.97 \times 10^{10}$ | $9.03 \times 10^{10}$ |
|              | Pattern up   | $3.88 \times 10^{10}$ | $1.16 \times 10^{11}$ |
|              | Pattern down | $5.23 \times 10^9$    | $3.62 \times 10^{11}$ |

\*All readings expressed in Ohms

### Telcordia GR-78 Surface Insulation Resistance Test

| Test Pattern | Boards       | Initial Reading*      | Final Reading*        |
|--------------|--------------|-----------------------|-----------------------|
| IPC-B-25A    | Control      | $8.69 \times 10^{12}$ | $1.40 \times 10^{13}$ |
|              | Pattern up   | $3.20 \times 10^{11}$ | $7.02 \times 10^{11}$ |
|              | Pattern down | $6.75 \times 10^{11}$ | $4.72 \times 10^{11}$ |

\*All readings expressed in Ohms

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

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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](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



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