

Product Data Sheet

Wave Solder Flux WF-7742 VOC-Free

Features

- Excellent Surface Wetting
- Eliminates Cleaning
- Wide Process Window
- Use with Pb-Free and Sn/Pb Assembly Processes

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 electronics 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.

Process Recommendations

WF-7742 should be applied by ultrasonic spray for best results. Topside board temperatures can range from 100°C to 150°C (300°F) 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 500-1,000 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 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.

Physical Properties

| Test | Result |
|-----------------------------------|--------|
| Color: | Clear |
| Specific Gravity: @25°C (77°F) | 1.014 |
| @15.5°C (60°F) | 1.014 |
| Acid Value | 36 |
| Solids Content | 5.76 |
| Flash Point | None |
| J-STD-004 Flux Type | ORLO |

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

IPC Surface Insulation Resistance

| Test Pattern | Board | 24 Hours | 96 Hours | 168 Hours |
|--------------|--------------|-------------------------|-------------------------|-------------------------|
| IPC B24 | Control | 2.95 X 10 ¹³ | 2.08 X 10 ¹³ | 1.56 X 10 ¹³ |
| | Pattern up | 8.93 X 10 ⁹ | 9.10 X 10 ⁹ | 6.28 X 10 ⁹ |
| | Pattern down | 1.32 X 10 ⁹ | 2.71 X 10 ⁹ | 3.19 X 10 ⁹ |

All readings expressed in ohms

IPC ECM/Telcordia EM Resistance Test

| Test Pattern | Board | 96 Hours | 596 Hours |
|--------------|--------------|-------------------------|-------------------------|
| IPC B25A | Control | 9.97 X 10 ¹⁰ | 9.03 X 10 ¹⁰ |
| | Pattern up | 3.88 X 10 ¹⁰ | 1.16 X 10 ¹¹ |
| | Pattern down | 5.23 X 10 ⁹ | 3.62 X 10 ¹¹ |

All readings expressed in ohms

Telcordia GR-78 Surface Insulation Resistance Test

| Test Pattern | Board | Initial Reading | Final Reading |
|--------------|--------------|-------------------------|-------------------------|
| IPC B25A | Control | 8.69 X 10 ¹² | 1.40 X 10 ¹³ |
| | Pattern up | 3.20 X 10 ¹¹ | 7.02 X 10 ¹¹ |
| | Pattern down | 6.75 X 10 ¹¹ | 4.72 X 10 ¹¹ |

All readings expressed in ohms

Packaging

- 5 gallon containers
- 55 gallon drums

Technical Support

Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Material 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.

Material Safety Data Sheet

The MSDS for this product can be found online at <http://www.indium.com/techlibrary/msds.php>

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.

Form No. 97862 R4

S O L D E R

INDIUM CORPORATION OF AMERICA®

www.indium.com
askus@indium.com
PRC +86 (0)512 628 34900
SINGAPORE +65 6268 8678
UK +44 (0) 1908 580400
USA +1 315 853 4900



ISO 9001
REGISTERED