

Product Data Sheet

Wave Solder Flux 3590-T No-Residue

Features

- Meets Bellcore Specification TR-NWT-000078
- Meets IPC J-STD-004 Flux Type ORLO
- Eliminates the Need for Cleaning
- Excellent Wetting and Solderability
- Compatible With Conformal Coatings without Cleaning
- Will not Interfere With Pin Testing

Introduction

3590-T is a low solids, non-halide rosin/resin free flux designed to eliminate post-cleaning operations. The effective flux activators provide superior solderability of surface mount, mixed technology, and through-hole electronic assemblies.

3590-T has a wide process window with excellent wetting capabilities, leaving no residue and high surface insulation resistance.

Process Recommendations

3590-T is best applied by ultrasonic spray, but can also be applied by foam.

Controlled application such as flux deposition and uniformity are integral factors when soldering with a no-clean chemistry. Flux deposition rate of 500-1,000 micrograms per square inch of flux solids should be applied as a starting point. Ideal topside board temperature is approximately 210° F (100°C). Preheat temperatures can differ based on wave soldering equipment, board thickness, components, and conveyor speed.

3590-T uses **16-3000 Thinner** to maintain specific gravity or acid value. Thinner is not required in an enclosed fluxing system.

Acid value should be monitored using a digital titrator when foaming to control flux concentration. To prevent contamination on assemblies in an open fluxing system, periodic replacement of flux is recommended.

Physical Properties

Test	Result	
	3590-T	16-3000
Color:	Clear	Clear
Specific Gravity: @25°C (77°F)	0.801	0.783
@15.5°C (60°F)	0.808	0.790
Acid Value	16.0	0
Solids Content	1.85	0
Flash Point (°F TCC)	84	54
J-STD-004 Flux Type	ORLO	N/A

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

Packaging

- 5 gallon containers
- 55 gallon drums

Safety

All fluxes with low flash points should be handled with caution. Store in a dry, well ventilated area away from sparks, flames, direct heat. Consult Material Safety Data Sheet for full details.

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>

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Bellcore Surface Insulation Resistance Test

Test Pattern	Boards	Initial Reading*	Final Reading*
Standard Bellcore	Control	7.06 X 10 ¹³	8.11 X 10 ¹³
	Pattern up	8.20 X 10 ¹⁰	1.14 X 10 ¹²
	Pattern down	6.64 X 10 ¹²	1.32 X 10 ¹⁴

*All readings expressed in ohms

IPC Surface Insulation Resistance Test

Test Pattern	Boards	24 Hours*	96 Hours*	168 Hours*
IPC B25A	Control	1.81 X 10 ¹⁰	9.96 X 10 ⁹	7.55 X 10 ⁹
	Pattern up	1.72 X 10 ¹⁰	1.23 X 10 ¹⁰	6.83 X 10 ⁹
	Pattern down	9.86 X 10 ⁹	4.54 X 10 ⁹	4.64 X 10 ⁹

*All readings expressed in ohms

Bellcore Electromigration Resistance Test

Test Pattern	Boards	Initial Reading*	Final Reading*
IPC-B25A	Control	1.33 X 10 ¹⁰	1.42 X 10 ¹⁰
	Pattern up	8.06 X 10 ⁹	1.23 X 10 ¹⁰
	Pattern down	2.12 X 10 ⁹	4.54 X 10 ⁹

*All readings expressed in ohms

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This product data sheet is provided for general information only. It is not intended, described which are sold subject exclusively to written warranties and limitations and shall not be construed, to warrant or guarantee the performance of the products thereon included in product packaging and invoices.

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