959T Soldering Flux

Low-Solid, No-Clean Liquid Flux

Product Description

Kester 959T Soldering Flux is a no-clean, non-corrosive, liquid flux that is designed for the wave soldering of conventional and surface mount circuit board assemblies. 959T was developed to minimize the formation of micro-solder balls during wave soldering operations. This flux contains a small percentage of rosin (0.5%), which improves solderability, heat stability and surface insulation resistance. 959T offers the best wetting and the shiniest solder joints of any no-clean, solvent- based chemistry. It is a very good flux that can be used for secondary soldering such as touch up and repair. 959T leaves evenly distributed residues for the best cosmetic appearance.

Performance Characteristics:

- Minimize micro-solderballs
- Extremely shiny joints
- No streaky, white residues
- Improves soldering performance
- Eliminates the need and expense of cleaning
- Classified as ORL0 per J-STD-004B

RoHS Compliance

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2011/65/EU for the stated banned substances.

Physical Properties

Specific Gravity: 0.794 ± 0.005
Anton Paar DMA 35 @ 25 °C

Percent Solids (typical): 2.9%
Tested to J-STD-004, IPC-TM-650, Method 2.3.34

Acid Number: 21.0 ± 1.0 mg KOH/g of flux
Tested to J-STD-004, IPC-TM-650, Method 2.3.13

Flash Point: 18 °C (25 °F)

Reliability Properties

Copper Mirror Corrosion: Low
Tested to J-STD-004, IPC-TM-650, Method 2.3.32

Corrosion Test: Low
Tested to J-STD-004B, IPC-TM-650, Method 2.6.15

Silver Chromate: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.3.33

Chloride and Bromides: None Detected
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

Fluorides by Spot Test: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.3.35.1

Surface Insulation Resistance (SIR): Pass
Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7

Surface Insulation Resistance (SIR) (typical): Pass
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	Blank	959T PD	959T PU
Day 1	$7.9*10^9$ Ω	$1.6*10^9$ Ω	$1.7*10^9$ Ω
Day 4	$8.4*10^9$ Ω	$1.9*10^9$ Ω	$5.3*10^9$ Ω
Day 7	$7.4*10^9$ Ω	$1.9*10^9$ Ω	$2.8*10^9$ Ω

Application

959T can be applied to circuit boards by a spray, foam or dip process. Flux deposition should be 120 to 240 µg of solids/ cm^2 (750 to 1500 µg of solids/in^2). An air knife after the flux tank is recommended in a foam and wave application to remove excess flux from the circuit board and prevent dripping on the preheated surface.

Process Considerations

The optimum preheat temperature for most circuit assemblies is 90 to 105 °C (194 to 221 °F) as measured on the top or component side of the printed circuit board. Dwell time in the wave is typically 2 to 4 seconds for leaded alloys and 4 to 8 seconds for lead-free alloys. The conveyor speed should be adjusted to accomplish proper board contact time with the solder. Then the preheat temperatures are adjusted to achieve the required preheat top board temperatures. In the event you need further direction on the setup of your wave soldering system, please contact Kester Technical Support.

Flux Control

Acid number is normally the most reliable method to control the flux concentration of low solids, no clean fluxes. To check concentration, a simple acid-base titration should be used. PS-22 Test Kit and procedures are available from Kester. Control of the flux in the foam flux tank during use is necessary for assurance of consistent flux distribution on the circuit boards. The complex nature of the solvent system for the flux makes it imperative that Kester 4662 Thinner be used to replace evaporative losses. When excessive debris from circuit boards, such as board fibers and from the airline build- up in the flux tank, these particulates will redeposit on the circuit boards which may create a build-up of residues on probe test pins. It is, therefore, necessary to clean the tank and then replenish it with fresh flux when excessive debris accumulates in the flux tank.

Cleaning

959T flux residues are non-conductive, non-corrosive and do not require removal in most applications. If residue removal is required, consult Kester Technical Support for further cleaning recommendation.

Recycling Services

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.



Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or link here.

Storage, Handling and Shelf Life

959T is flammable. Store away from sources of ignition. Shelf life is 3 years from the date of manufacture when handled properly and held at 10 to 25 °C (50 to 77 °F).

Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet and warning label before using this product. Safety Data Sheets are available at this link.

Contact Information

To confirm this document is the most recent version, please contact Assembly@MacDermidAlpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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