

920-CXF

No-Clean Low Solids Liquid Flux

General Information

Kester 920-CXF is a halogen-free, organic flux designed for wave soldering conventional and surface mount circuit board assemblies. This flux eliminates defects often experienced in surface mount assembly wave soldering operations with traditional fluxes. This non-corrosive and non-conductive flux has an extremely low solids content. There is essentially NO RESIDUE left on the assembly after soldering. There are no residues to interfere with electrical testing and the expense of cleaning is eliminated. PCB assemblies are dry as they exit the wave solder machine.

A particular feature of Kester 920-CXF is the high surface insulation resistance (10^{11} ohm) of assemblies after soldering, being comparable to unsoldered boards. The surface insulation resistance is higher than that provided by typical organic water-soluble fluxes. Electrical reliability of the assembly is assured.

Performance Characteristics

- ◆ Essentially no residue left behind after soldering
- ◆ Eliminates the expense of cleaning
- ◆ Boards are dry as they exit the wave solder machine
- ◆ Non-corrosive and halogen-free
- ◆ No surface insulation resistance degradation
- ◆ No offensive odors given off during soldering
- ◆ Conforms to ANSI/J-STD-004, flux designator ORLO

Application

The surface tension of this formula has been adjusted for use in foam fluxing equipment. This flux provides a stable head of small bubbles. The usable preheat range is 180-230°F (82-110°C), but the optimum preheat temperature for most PCB assemblies is 210-230°F (99-110°C) as measured on the top or component side of the circuit board. Insufficient preheat tends to leave more residue behind after soldering. Excessive preheating time or temperature can partially degrade the flux and result in icicles or solder shorts.

Process Control

Control of the flux tank during use is necessary to assure a consistent amount of flux is applied to the circuit boards, the least amount of residue remains after soldering, no interference in electrical probe testing and consistent soldering results are obtained. Kester has developed the PS-20 Flux Test Kit to provide an effective means of determining the relative flux concentration and the proper amount of thinner to add to replace evaporative losses.

Also, debris from circuit boards (board fibers, etc.) and air lines can build up in the flux tank during use. When excessive, it will redeposit on circuit boards, which may create a build up of residues on probe test pins and can even affect the foam head characteristic in the flux tank. It is necessary to replace the flux tank with fresh flux when excessive debris accumulates in the flux tank.

Physical Properties

	920-CXF	4662-SM
Specific gravity @ 75°F (24°C)	0.802 ± 0.003	0.783 ± 0.003
Pounds per gallon	9.30	6.53
Solids Content %	4.5	---
Acid number, mgKOH/gm	21.0 ± 1.5	---
Halogen content	None	---
Flash point (T.O.C.)	60°F (16°C)	60°F (16°C)
Autoignition temperature	750°F (399°C)	750°F (399°C)
Copper Mirror Corrosion Test	Pass	---
Surface Insulation Resistance		---
@ 50°C (122°F), 90% humidity*	10 ¹¹ ohm	
Surface Insulation Resistance		
@ 85°C (185°F), 85% humidity**	10 ⁹ ohm	
Thinner	4662-SM	

* Test Boards - 12.5 mil lines, 12.5 mil spaces. 50 volts DC bias. Reading taken after 60-sec charge of 100 volts DC with polarity reversed from bias voltage. SIR of unsoldered control = 10¹¹ ohm.

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Residue Properties and Removal

Kester 920-CXF is a no-clean flux. For most electronic assemblies, removal of flux residue is not required. If post soldering residue removal is desired, it can be cleaned with a 2-5% concentration of a saponifier, such as the Kester 5768 Bio-Kleen.

Storage & Shelf Life

Kester 920-CXF is flammable. Store away from sources of ignition. Shelf life is 1 year from date of manufacture when handled properly and held at 10-25°C (50-77°F).

Health & Safety

This product, during handling or use, may be hazardous to health or the environment. Read the Material Safety Data Sheet and the label before using this product.

World Headquarters: 800 West Thorndale Avenue, Itasca, Illinois, 60143 USA
Phone: (+1) 847-297-1600 • **Email:** customerservice@kester.com • **Website:** www.kester.com

Asia Pacific Headquarters
500 Chai Chee Lane
Singapore 469024
(+65) 6449-1133
customerservice@kester.com.sg

European Headquarters
Zum Plom 5
08541 Neuensalz
Germany
(+49) 3741 4233-0
customerservice@kester-eu.com

Japanese Headquarters
20-11 Yokokawa 2-Chome
Sumida-Ku
Tokyo 130-0003 Japan
(+81) 3-3624-5351
jpsales@kester.com.sg

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