

1429 Soldering Flux

VOC-Free, Organic, Water Soluble Liquid Flux

Product Description

Kester 1429 Soldering Flux, a VOC-free, organic, water soluble flux, is a self-neutralizing type of flux formulation based on research work originally performed at the Battelle Memorial Institute. The unique chemistry of 1429 flux provides for self-neutralization through a time/temperature relationship which results in a residue which is neutral and non-corrosive when properly heated. As with any organic flux, excessive heating can cause the flux to char and decrease both fluxing ability and removability. The surface tension of 1429 flux has been adjusted to promote solder flow, prevent icicling and bridging and obtain a bright soldered surface. As with any Kester flux formulation, 1429 is manufactured under strict quality control requirements for consistent performance and assured reliability.

Performance Characteristics:

- High activity
- Minimizes icicling and bridging
- High ionic cleanliness and no surface insulation resistance degradation
- Classified as ORH1 per J-STD-004

Physical Properties

Specific Gravity: 1.061 ± 0.010

Antoine Paar DMA 35 @ 25 °C

Percent Solids (typical): 18

Tested to J-STD-004, IPC-TM-650, Method 2.3.34

Reliability Properties

Copper Mirror Corrosion: High

Tested to J-STD-004, IPC-TM-650, Method 2.3.32

Corrosion Test: High

Tested to J-STD-004, IPC-TM-650, Method 2.6.15

Silver Chromate: Fail

Tested to J-STD-004, IPC-TM-650, Method 2.3.33

Chloride and Bromides: 2.3%

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

Flux Application

1429 can be applied by a spray, dip, or wave process.

Process Considerations / Recommendations

1429 Organic Flux is designed for tinning and dipping operations where a more active flux than rosin is required, inorganic acid fluxes are too corrosive and the ease of removing the residue with water is desired. For some applications the flux can be diluted to half strength with distilled, deionized or softened tap water. This further decreases tinning costs. 1429 flux can be used effectively without preheating.

Insulated Wires: This is not recommended for tinning of insulated wire because raw flux will wick up under the insulation and become trapped. This can lead to corrosion of the wire over time.

Bellows: Avoid using this flux for soldering of bellows and other closed assemblies where residues which have not been completely neutralized can be trapped and lead to deterioration of soldered joints over time.

Flux Control

Specific gravity is normally the most reliable method to control the flux concentration. To check concentration, a hydrometer should be used. DI water can be used to replace evaporative losses.

Cleaning

No neutralizer, saponifiers or detergents are necessary in the water wash system for complete removal of flux residues. It is not recommended to use high mineral content tap water. Otherwise, tap, deionized or softened water may be used for cleaning. The optimum water temperature is 45 to 65 °C (113 to 140 °F), although lower temperatures may be sufficient.

Storage, Handling and Shelf Life

Because this formulation is water based, it is subject to freezing. A minimum storage temperature of 4 °C (40 °F) is recommended. If frozen, 1429 is easily reconstituted by stirring at room temperature. Shelf life is 2 years from date of manufacture when handled properly and held at 4 to 25 °C (40 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 <https://www.kester.com/downloads/sds>.

Contact Information

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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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