kester®
CONNECTING INNOVATION™

1429
VOC-Free Organic Water-Soluble Liquid Flux

Product Description

Kester 1429 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 Organic Flux 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

Application Notes

Flux Application:
Kester 1429 can be applied by a spray, dip, or wave process.

Process Considerations:
Kester 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. Kester 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 45-65°C (113-140°F), although lower temperatures may be sufficient.

Storage 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, the Kester 1429 is easily reconstituted by stirring at room temperature. Shelf life is 2 years from date of manufacture when handled properly and held at 4-25°C (40-77°F).

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

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