



## 331 Flux-Cored Wire

Organic Cored Wire for Lead-free and Leaded Alloys

### Product Description

Kester 331 organic flux is a water-soluble formula for use in flux-cored solder wire. This cored solder version of the popular 2331-ZX Neutral Organic Water Soluble Liquid Flux is more effective than rosin fluxes in soldering difficult metals. The same fast action and mild properties are exhibited with 331 Organic Flux as with the liquid 2331-ZX. The flux is more heat stable than most organic fluxes, resulting in minimal smoke and odor. The residue can be completely removed with a simple heated water rinse. Deionized water is suggested to prevent introduction of chemistries from unknown water sources.

#### Performance Characteristics:

- Excellent solderability to a wide variety of metalizations
- Easy removal in hot DI water
- Classified as ORH1 per J-STD-004
- Compatible with leaded and lead-free alloys

### RoHS Compliance

Kester does not determine any applicable Restriction of Hazardous Substances (RoHS) exemptions for our lead containing products at the user level. (Applies only if this core flux is combined with a lead-free alloy)

### Reliability Properties

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

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

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

**Corrosion Test:** High  
Tested to J-STD-004, IPC-TM-650, Method 2.6.15

**Chloride and Bromides:** 1.2%  
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

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

	Blank	331
Day 1	1.9*10 <sup>10</sup> Ω	2.0*10 <sup>9</sup> Ω
Day 4	2.2*10 <sup>10</sup> Ω	7.8*10 <sup>9</sup> Ω
Day 7	1.7*10 <sup>10</sup> Ω	4.1*10 <sup>9</sup> Ω

## Availability

331 is available in a wide variety of alloys, wire diameters and flux percentages. The most common alloys are Sn63Pb37, Sn96.5Ag3.0Cu0.5 and K100LD. Please refer to [www.kester.com](http://www.kester.com) for wire diameters, flux percentages and roll sizes that are available.

Note: Core size 50, 58 and 66 = 1.1%, 2.2% and 3.3% flux core.

## Process Considerations

Solder iron tip temperatures are most commonly between 315-343°C (600-650°F) for Sn63Pb37 and Sn62Pb36Ag02 alloys, and 371-400°C (700-750°F) for lead-free alloys. Heat both the land area and component lead to be soldered with the iron prior to touching the land with the cored wire. Do not apply the wire directly to the soldering iron tip. If needed, Kester 2331-ZX organic flux may be used as a compatible liquid flux to aid in reworking soldered joints. Kester 2331-ZX is available in Flux-Pens.

## Cleaning

The 331 flux residue is conductive and will cause corrosion of metal parts over time. Residue removal should be completed within 48 hours. 331 Organic Flux has the advantage over many competitive water-soluble flux formulations in that the residue is easily and completely removed with plain hot water (120°F-140°F degrees). Softened tap water or deionized water is recommended for high reliability. Use of hard or high mineral content tap water will increase ionic cleanliness measurements.

## Storage and Shelf Life

The shelf life of cored solder wire is based on the chemistry of the flux core and the protective alloy covering of the wire. When stored in a dry, non-corrosive environment between 10°C-40°C (50-104°F), the shelf life of wire may be nearly indefinite. The expiration date determined by the date of manufacture printed on the product and Certificate of Analysis will represent the manufacturer's warranty period which is the time frame wherein Kester will replace defective product. Flux-cored solder wires with alloys containing more than 70% lead have a 2 year warranty from the date of manufacture. All other alloys have a 3 year warranty from the date of manufacture.

Over time, the surface of wire may lose its shine and appear a dull shade of gray. This is a surface phenomenon and is not detrimental to product functionality.

## Health and Safety

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