

# 245

## No-Clean Cored Wire

### For Lead-bearing and Lead-free alloys

#### Product Description

Kester 245 No-clean Cored Wire was developed to complement the newer generations of Low Residue liquid fluxes being used by the electronics industry. The chemistry is based on some of the same principles that have been safely used for years in mildly activated rosin fluxes. The use of 245 No-clean Cored Wire results in visually acceptable assemblies without cleaning, yet soldering quality and efficiency is comparable to that obtained with mildly activated rosin flux. Kester 245 Low Residue Flux is classified as Type ROL0 flux per IPC J-STD-004. This flux was formerly classified as Type LR per MIL-F-14256. Kester 245 can be used for both lead-bearing and lead-free soldering. Kester 245 is Bellcore GR-78 compliant.

#### Performance Characteristics:

- Highly reliable post-soldering residue
- Minimal residue
- Compatible with leaded and lead-free alloys
- Classified as ROL0 per J-STD-004
- Compliant to Bellcore GR-78

#### 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-004, 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

##### SIR, IPC (typical): Pass

Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	<b>Blank</b>	<b>245</b>
Day 1	$1.2 \times 10^{10} \Omega$	$1.7 \times 10^9 \Omega$
Day 4	$9.4 \times 10^9 \Omega$	$1.9 \times 10^9 \Omega$
Day 7	$8.6 \times 10^9 \Omega$	$2.1 \times 10^9 \Omega$

##### Spread Test (typical):

Tested to J-STD-004, IPC-TM-650, Method 2.4.46

Flux Core Solder	Area of Spread mm <sup>2</sup> (in <sup>2</sup> )	
	Sn96.5Ag3.0Cu0.5	Sn63Pb37
285 Mildly Activated Rosin	129 (0.20)	194 (0.30)
245 No-Clean	213 (0.33)	335 (0.52)
275 No-Clean	200 (0.31)	348 (0.54)

## Application Notes

### Availability:

Kester 245 is available in a wide variety of alloys, wire diameters and flux percentages. For most applications, Sn63Pb37 or Sn96.5Ag3.0Cu0.5 is used. Consult the alloy temperature chart in Kester's product catalog for a comprehensive alloy list. The standard wire diameter for most applications is 1.00mm (0.031in). Wire diameters range from 0.25 - 6.00mm (0.010 to 0.250in). A "Standard Wire Diameters" chart also is included in Kester's product catalog. The amount of flux in the wire dictates the ease of soldering for an application. For tin/lead applications, core 50 or 58 (1.1 and 2.2% flux by weight) are recommended. For Lead-free and high-lead applications, core 58 or 66 (2.2 and 3.3% flux by weight) are recommended. Kester 245 is packaged on spools of different sizes to accommodate a variety of applications.

### Process Considerations:

Solder iron tip temperatures should range between 260-370°C (500-700°F) for Sn63Pb37 and Sn62Pb36Ag02 alloys and 315-400°C (600-750°F) for lead-free alloys. Heat both the land area and component lead to be soldered with the iron prior to adding Kester 245 cored wire. Apply the solder wire to the land area or component lead. Do not apply the wire directly to the soldering iron tip. If needed, Kester 951 no clean, rosin free flux may be used as a compatible liquid flux to aid in reworking soldered joints. Kester 951 is also available in flux pens for optimum board cleanliness.

### Cleaning:

The flux residues left by the 245 core flux are non-corrosive, non-conductive and do not require removal in most applications. If residue removal is required, call Kester Technical Support.

### Storage, Handling, and Shelf Life:

Storage must be in a dry, non-corrosive environment. The surface may lose its shine and appear a dull shade of grey. This is a surface phenomena and is not detrimental to product functionality. Flux cored solder wire has a limited shelf life determined by the alloy used in the wire. For alloys containing > 70% lead, the shelf life is two years from date of manufacture. Other alloys have a shelf life of three years from date of manufacture.

### 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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