OR421
Organic Cored Wire
For Lead-bearing and Lead-free alloys

Product Description

Kester OR421 is a high activity, water soluble, cored wire flux. The OR421 is more heat stable, exhibits better wetting capabilities and has less odor than competitive products. The residues left by OR421 are near neutral pH and therefore also less corrosive. The OR421 is classified as ORH1 per J-STD-004.

Kester OR421 cored wire solder can be utilized with an open torch or a soldering iron. OR421 will solder copper as well as more difficult to solder materials such as brass and nickel. OR421 can be used on pipes or tubing for applications such as refrigeration coils and heat exchangers. The heat stability of Kester OR421 makes it ideal for high temperature alloys such as 95Sn/5Sb, 10Sn88Pb2Ag and 10Sn90Pb.

Performance Characteristics:

- Highest activity available
- Compatible with high temperature alloys
- Easy to clean
- Classified as ORH1 per J-STD-004

RoHS Compliance

This product meets the requirements of the RoHS (Restriction of Hazardous Substances) Directive, 2002/95/EC Article 4 for the stated banned substances. (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

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: 6.95%
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

Availability:

Kester OR421 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 also included in Kester's product catalog. The amount of flux in the wire dictates the ease of soldering for an application. For most applications, core 66 (3.3% flux by weight) is recommended. Other core sizes, 50 and 58, (1.1% and 2.2% respectively) are available. Kester OR421 is packaged on spools of different sizes to accommodate a variety of applications.

Process Considerations:

Solder iron tip temperatures are most commonly between 315-371°C (600-700°F) for Sn63Pb37 and Sn62Pb36Ag02 alloys and 371-427°C (700-800°F) for lead-free alloys. Heat both the land area and component lead to be soldered with the iron prior to adding Kester OR421 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 2331-ZX organic flux may be used as a compatible liquid flux to aid in reworking soldered joints.

Cleaning:

Kester OR421 Flux leaves a residue after soldering that is hygroscopic and ionizable. Removal of ionizable salts can best be accomplished by washing the assembly with a 2-5% solution of Kester 5760 Neutralizer in water, followed by a thorough warm water rinse. The recommended water temperature is 54 ± 6°C (130 ± 10°F). If the residue is charred due to excessive heating during soldering, mechanical scrubbing can be used to remove the decomposed char.

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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