OR-421 Flux-Cored Wire

Organic Wire for Lead-free and Leaded Alloys

Product Description

Kester OR-421 Flux-Cored Wire is a high activity, water soluble, cored wire flux. OR-421 is more heat stable, exhibits better wetting capabilities and has less odor than competitive products. The residues left by OR-421 are near neutral pH and therefore also less corrosive. OR-421 is classified as ORH1 per J-STD-004. OR-421 cored wire solder can be utilized with an open torch or a soldering iron. OR-421 will solder copper as well as more difficult to solder materials such as brass and nickel. OR-421 can be used on pipes or tubing for applications such as refrigeration coils and heat exchangers. The heat stability of OR-421 makes it ideal for high temperature alloys such as Sn95Sb5, Sn63Pb37 and K100LD.

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

Availability

OR-421 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 to 6.00 mm (0.010 to 0.250 in). 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. OR-421 is packaged on spools of different sizes to accommodate a variety of applications.

Process Considerations

Solder iron tip temperatures are most commonly between 315 to 371 °C (600 to 700 °F) for Sn63Pb37 and Sn62Pb36Ag02 alloys and 371 to 427 °C (700 to 800 °F) for lead-free alloys. Heat both the land area and component lead to be soldered with the iron prior to adding OR-421 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

OR-421 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.

Recycling Services

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or link here.

Storage, Handling and Shelf Life

Storage must be in a dry, non-corrosive environment between 10 to 40 °C (50 to 104 °F). The surface may lose its shine and appear a dull shade of grey. This is a surface phenomenon and is not detrimental to product functionality. Flux-cored solder wire has a shelf life determined by the alloy used in the wire. For alloys containing more than 70% lead, the shelf life is 2 years from the date of manufacture. Other alloys have a shelf life of 3 years from the date of manufacture.

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 this link.

Contact Information

To confirm this document is the most recent version, please contact Assembly@MacDermidAlpha.com

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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