



291S No-Clean Flux Coating for Preforms

Product Description

Kester 291S is a no-clean flux coating that was developed based on some of the same principles that have been safely used for years in no-clean liquid fluxes. 291S results in visually acceptable assemblies without cleaning, yet soldering quality and efficiency is not compromised. 291S is an externally coated flux material that exhibits excellent solderability on a wide variety of surface finishes including tin-plate, OSP copper and HASL.

Performance Characteristics:

- Highly reliable post-soldering residue
- Minimal residue
- Eliminates the need and expense of cleaning
- Compatible with leaded and lead-free alloys
- Classified as ORL0 per J-STD-004

RoHS Compliance

Kester does not determine any applicable Restriction of Hazardous Substances (RoHS) exemptions for our lead containing products at the user level.

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: < 0.05%
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

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

	Blank	291S
Day 1	9.9*10 ⁹ Ω	4.0*10 ⁹ Ω
Day 4	8.4*10 ⁹ Ω	3.6*10 ⁹ Ω
Day 7	7.8*10 ⁹ Ω	3.1*10 ⁹ Ω

Availability

Kester Preforms are available in a wide variety of shapes, sizes and alloys and are offered with and without flux. Preforms can be coated in a variety of weight percents with typical flux ranges available from 0.75-2.5% by weight. Consult the alloy temperature chart on Kester's website for a comprehensive alloy list. The amount of flux on the preform dictates the ease of soldering for an application. Preforms are typically packaged in bulk containers, but can be placed in specialty packaging to accommodate a variety of applications.

Process Considerations

Preforms are placed into position between the surfaces to be soldered. The preform area can then be heated locally with a soldering iron, torch, hot air tool or the whole assembly passed through a suitable oven. The assembly should be heated above the liquidus temperature of the solder alloy being used. Optimum temperatures and times for reflow and intermetallic formation are dependent on assembly, process and alloy used. Preforms allow manufacturing soldering operations to be accomplished without the use of additional liquid fluxing agents. This reduces throughput time and increases process yield by delivering precisely the right amount of flux to solder surfaces together. After soldering has been completed, the flux residues can be left on the assembly without affecting reliability of the product.

Cleaning

Residues from preforms are non-conductive, non-corrosive and do not require removal in most applications. If residue removal is required, contact Kester Technical Support.

Storage and Shelf Life

Solid solder preforms have an indefinite shelf life given the following conditions when stored in a dry, non-corrosive environment. The surface may lose its shine and appear a dull shade of gray. This is a surface phenomenon and is not detrimental to product functionality.

Preforms that contain flux have a limited shelf life determined by the alloy used in the preform. Alloys containing more than 70% lead have a 2 year shelf life from the date of manufacture. All 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 (SDS) and warning label before using this product.