kester® Technical Data Sheet

186 FLUX-PEN®

Mildly Activated Rosin Flux-Pen® for Lead-bearing and Lead-free Alloys

Product Description

Kester 186 Flux-Pen® is specifically designed for leaded and lead-free rework of conventional and surface mount circuit board assemblies. 186 Flux-Pen® under MIL-F-14256, was QPL approved as Type RMA. Although the fluxing ability approaches that of Type RA flux, residues after soldering are non-corrosive and non-conductive. 186 Flux-Pen® has been developed for use in critical applications where difficult assemblies are to be soldered, but process requirements stipulate use of Type RMA flux. 186 Flux-Pen® possess high thermal stability for soldering multi-layer assemblies which require higher temperatures. Exposure to high preheat temperatures does not degrade solubility of the residue in normal cleaning solvents. There is no surface insulation resistance degradation caused by the flux residue. The use of a minimum of ionic activating agents and the inactive nature of the residue permits leaving the residue on circuit board assemblies for many applications. The flux residue is also moisture and fungus resistant.

Performance Characteristics:

- High thermal stability
- Improves soldering performance
- Eliminates the need and expense of cleaning
- Classified as ROL0 per J-STD-004

RoHS Compliance

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2011/65/EU for the stated banned substances.

Physical Properties

Specific Gravity: 0.874-0.884
Anton Paar DMA @ 25°C

Percent Solids (theoretical): 36%
Tested to J-STD-004, IPC-TM-650, Method 2.3.34

Acid Number (typical): 55 mg KOH/g flux
Tested to J-STD-004, IPC-TM-650, Method 2.3.13

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

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

	Blank	186
Day 1	$5.0 \times 10^9\ \Omega$	$3.1 \times 10^9\ \Omega$
Day 4	$5.8 \times 10^9\ \Omega$	$4.9 \times 10^9\ \Omega$
Day 7	$6.3 \times 10^9\ \Omega$	$5.5 \times 10^9\ \Omega$

Chloride and Bromides: 0.02%
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

Global Headquarters: 800 West Thorndale Avenue, Itasca, IL USA 60143 ▪ Phone: +1 800.2.KESTER ▪ Fax: +1 630.616.4044
Asia-Pacific Headquarters: 61 Ubi Avenue 1 #06-01 UB Point, Singapore 408941 ▪ Phone: +65 6.449.1133 ▪ Fax: +65 6.242.9036
European Headquarters: Ganghofer Strasse 45, 82216 Gernlinden, Germany ▪ Phone: +49 (0) 8142 4785 0 ▪ Fax: +49 (0) 8142 4785 61
Asia Manufacturing: Hengqiao Road, Wujiang Economic Development Zone ▪ Suzhou, Jiangsu Province, China 215200 ▪ Phone: +86 512.82060807 ▪ Fax: +86 512.8206 0808
▪ Website: www.kester.com ▪

Application Notes

Flux Application

186 Flux-Pen® is applied to circuit boards via Flux-Pen® for rework of printed wire assemblies.

Process Considerations

186 Flux-Pen® should only be applied to areas that will be fully heated by the soldering iron or other reflow tool. Care should be taken to avoid flooding the assembly. The surface tension has been adjusted to help the flux form a thin film on the board surface allowing rapid solvent evaporation.

Cleaning

186 Flux-Pen® flux residues are non-conductive, non-corrosive and do not require removal in most applications.

Storage, Handling and Shelf Life

186 Flux-Pen® is flammable. Store away from sources of ignition. Shelf life is 2 years from date of manufacture when handled properly and held at 10-25°C (50-77°F). The cap must be in place when not being used.

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.

Global Headquarters: 800 West Thorndale Avenue, Itasca, IL USA 60143 ▪ Phone: +1 800.2.KESTER ▪ Fax: +1 630.616.4044
Asia-Pacific Headquarters: 61 Ubi Avenue 1 #06-01 UB Point, Singapore 408941 ▪ Phone: +65 6.449.1133 ▪ Fax: +65 6.242.9036
European Headquarters: Ganghofer Strasse 45, 82216 Gernlinden, Germany ▪ Phone: +49 (0) 8142 4785 0 ▪ Fax: +49 (0) 8142 4785 61
Asia Manufacturing: Hengqiao Road, Wujiang Economic Development Zone ▪ Suzhou, Jiangsu Province, China 215200 ▪ Phone: +86 512.82060807 ▪ Fax: +86 512.8206 0808
▪ Website: www.kester.com ▪