NF1060-VF Soldering Flux

No-Clean, VOC-Free, Zero-Halogen Liquid Flux

Product Description

Kester NF1060-VF Soldering Flux is a new addition to Kester's No-Clean, VOC-Free product line. NF1060-VF is zero-halogen (none intentionally added) wave soldering flux that maintains its soldering performance achieving excellent through-hole fill and low-defect soldering of lead-free electronic circuit board assemblies.

Performance Characteristics:

- ORM0 per J-STD-004B
- VOC-Free for lower VOC emissions
- Zero-Halogen (none intentionally added)
- Low solids content prevents clogging or buildup around flux spray nozzles
- No offensive odor
- Minuscule, non-visible residue is non-conductive, non-corrosive, and does not need to be removed
- No surface insulation degradation
- Chemically compatible with most solder laminates

RoHS Compliance

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive. Additional RoHS information is located at https://www.kester.com/downloads/environmental.

Physical Properties

(Typical values listed)

Specific Gravity @ 25 °C: 1.014

Acid Number: 41.7 mgKOH/gm

Solids Content (theoretical): 4.9%

pH (5% solution @ 25 °C): 2.7

Reliability Properties

Copper Mirror: Low
IPC-TM-650, Method 2.3.32

Copper Corrosion: Medium
Per IPC-TM-650, Method 2.6.15

Halogen Content: None Detected
Per IPC-TM-650, Method 2.3.38.1

Surface Insulation Resistance (SIR): Pass
Per IPC-TM-650, Method 2.6.3.7
Test Conditions: 40 °C, 90% RH, 7 days, 12.5V

Process Considerations

The preheat board temperature should be less than 120 °C (248 °F). Dwell time in the wave is typically 3 to 5 seconds for Sn63Pb37 and 4 to 8 seconds for lead-free alloys. The wave soldering conveyor speed should be adjusted to accomplish proper contact time for the alloy in the solder pot then the heaters in the preheat section adjusted to meet the requirements for the top side circuit board temperature.

Process Parameters	Recommendations
Flux Application	155 to 233 µg/cm^2 of solids (1000 to 1500 µg/in^2 of solids)
Top-Side Preheat Temperature[1]	110 to 115 °C (230 to 239 °F)
Bottom-Side Preheat Temperature	110 to 115 °C (230 to 239 °F)
Recommended Preheat Profile	Straight ramp to top side board temperature
Solder Contact Time	4.5 to 6.5 seconds for Pb-free alloys
Solder Pot Temperature	260 to 270 °C (500 to 518 °F) for Pb-free alloys

[1] Maximum top side temperature 115 °C (239 °F)

Flux Control

NF1060-VF is designed to be sprayed. Incoming solderability inspection of circuit boards and components is advisable as part of process control to maintain consistent soldering results. This VOC flux is not designed for use in a foam application. It will require a process with a preheat stage. It is not designed for hand soldering.

Cleaning

NF1060-VF residues are non-conductive, non-corrosive, and do not require removal in most applications. If it is desired to remove the residues, DI water in in-line or batch cleaner at 43 to 54 °C (110 to 130 °F) may be used. Contact Kester Technical Support for additional assistance.

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

recommended. If frozen, NF1060-VF is easily reconstituted by stirring at room temperature. Shelf-life 1 year from date of manufacture when handled properly and held at 4 to 25 °C (40 to 77 °F).

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

North America	Europe	Asia Pacific
109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.253.7837	Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400	8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100

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