KESTER® 985M SOLDERING FLUX

Low-Solids, No-Clean Flux

DESCRIPTION

Kester 985M Soldering Flux is a low-solids, halide-free, no-clean flux that is designed for wave solder and touch up processes. 985M was developed for use with both traditional tin-lead and lead-free solder alloys. 985M exhibits improved soldering performance to minimize solder bridges (shorts) during all soldering operations.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Improves soldering performance
- Eliminates the need and expense of cleaning
- Non-corrosive tack-free residues
- Compliant to GR-78-CORE (Telcorida/Bellcore)
- Classified as ORL0 under IPC J-STD-004 and ORM0 under IPC J-STD-004B

ROHS COMPLIANCE

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive.

TECHNICAL DATA

Category	Results	Procedure/Remarks
Physical Properties		
Specific Gravity	0.805	@ 25 °C (typical)
Acid Number (Typical)	20.0 mg KOH/g of flux	
Percent Solids (Theoretical)	3.6%	
Reliability Properties		
Copper Mirror Corrosion	No Breakthrough “L”	Tested to J-STD-004B, IPC-TM-650, Method 2.3.32

Category	Results	Procedure/Remarks
Corrosion Test	No Corrosion "L" Minor Corrosion "M"	Tested to J-STD-004, IPC-TM-650, Method 2.6.15B Tested to J-STD-004B, IPC-TM-650, Method 2.6.15C
Bono Corrosion Test	Pass, Fc=0.7%	Test Conditions: 85 °C, 85% RH, 15 days, 12V
Silver Chromate	Pass	Tested to J-STD-004, IPC-TM-650, Method 2.3.33
Chloride & Bromide	None Detected	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
Electrochemical Migration (ECM)	Pass	Tested to J-STD-004B, IPC-TM-650, Method 2.6.14.1 Tested Conditions: 65 °C, 85% RH, 500hrs, 100V
Surface Insulation Resistance (SIR), Bellcore, IPC	Pass	GR-78 13.1.3 Tested Conditions: 35 °C, 85% RH, 4 Days, 100V
Surface Insulation Resistance (SIR)	Pass	Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7 Tested Conditions: 40 °C, 90% RH, 7 Days, 12.5V
Surface Insulation Resistance (SIR)	Pass	Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3 Tested Conditions: 85 °C, 85% RH, 7 Days, 100V

FLUX APPLICATION

985M is specially designed for spray and wave applications. It is not designed to be used in a foam application. The flux deposition target should start at 90 to 190 µg of solids/cm^2 (600 to 1200 µg of solids/in^2).

PROCESSING GUIDELINES

The optimum preheat temperature for most circuit assemblies is 85 to 105 °C (185 to 221 °F) as measured on the top or component side of the assembly. It is important to note that the optimum preheat temperature for a given assembly will depend on the combination of machine design, circuit board design (board mass or size and component mix), board thickness, length of contact time with molten solder, solder wave shape, speed of solder flow, preheating time and alloy used in the solder pot. The key is to preheat the board to start the activation of the flux yet not burn it up prior to reaching the solder pot. For 985M, the maximum preheat temperature on the bottom side of the board is 130 °C.

Leaded solders (Sn63Pb37) will require a dwell time of 2 to 4 seconds. Lead-free solders (Sn96.5Ag3.0Cu0.5) will require a dwell time in the wave of 4 to 7 seconds. Any time greater than 7 seconds, copper dissolution for OSP, ImAg, and ImSn boards may occur.

The above information is a guideline and it is advisable to note that the optimum settings for a given assembly may vary and this is dependent on the circuit board design, board thickness, components used and equipment used. A design of experiment is recommended to be done to optimize the soldering process. If you have any questions, please contact Kester Technical Support.

Touch-Up Application

Flux pens should only be used as a last resort. Any flux applied to the solder location should be kept to the location of the solder connection being soldered.

Flux Control

Kester PS-22 Test Kit and procedure are available to insure the level of solids in the flux. The instructions of how to use this kit will come with the purchase of the kit. This could be used as a means of incoming inspection.

Cleaning

985M residues are non-conducive and do not require removal in most applications. If residue removal is required it can be removed using commercially available flux residue cleaner. Contact MacDermid Alpha Technical Support for additional assistance.

Additional Information

Additional product information is available in 985M Data Package. Contact your local representative for a copy.

Storage, Handling and Shelf Life

985M is flammable. Store away from sources of ignition. Shelf life is 1 year from the date of manufacture when handled properly and held at 10 to 25 °C (50 to 77 °F).

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.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

CONTACT INFORMATION

www.macdermidalpha.com

North America 140 Centennial Avenue Piscataway, NJ 08854 1.800.367.5460	**Europe** Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400	**Asia** 8/F., Two Sky Parc 51 Hung To Road Kwun Tong, Kowloon, Hong Kong, SAR China 852.2500.5365

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