



## 985M Low-Solids No-Clean Flux

### Product Description

Kester 985M is a low-solids, halide-free, no-clean flux that is designed for wave solder, selective 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. This flux is suitable for automotive, computer, telecommunications and other applications where reliability considerations are critical. As tested under J-STD-004A specifications 985M is classified Type ROL0.

#### Performance Characteristics:

- Improves soldering performance
- Eliminates the need and expense of cleaning
- Non-corrosive tack-free residues
- Classified as ROL0 per J-STD-004
- Compliant to Bellcore GR-78

### RoHS Compliance

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

### Physical Properties

**Specific Gravity:** 0.805 ± 0.005  
Anton Paar DMA 35 @ 25°C

**Percent Solids (theoretical):** 3.6%  
Tested to J-STD-004, IPC-TM-650, Method 2.3.34

**Acid Number (typical):** 20.0 mg KOH/g of flux  
Tested by potentiometric titration

### Reliability Properties

**Copper Mirror Corrosion:** Low  
Tested to J-STD-004, IPC-TM-650, Method 2.3.32

**Silver Chromate:** Pass  
Tested to J-STD-004, IPC-TM-650, Method 2.3.33

**Fluorides by Spot Test:** Pass  
Tested to J-STD-004, IPC-TM-650, Method 2.3.35.1

**Corrosion Test:** Low  
Tested to J-STD-004, IPC-TM-650, Method 2.6.15

**Chloride and Bromides:** None Detected  
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

**Surface Insulation Resistivity (SIR):** Pass  
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3  
Test COnditions: 85°C, 85% RH, 7 days, 100V

**Bono Corrosion Test:** Pass;  
Fc=0.7%  
Test Conditions: 85°C, 85% RH, 15 days, 12V

	Blank	985M
Day 1	1.3*10 <sup>10</sup> Ω	7.3*10 <sup>9</sup> Ω
Day 4	9.7*10 <sup>9</sup> Ω	1.1*10 <sup>10</sup> Ω
Day 7	8.2*10 <sup>9</sup> Ω	1.1*10 <sup>10</sup> Ω

## 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 90-190  $\mu\text{g}$  of solids/ $\text{cm}^2$  (600-1200  $\mu\text{g}$  of solids/ $\text{in}^2$ ).

## Process Considerations

The optimum preheat temperature for most circuit assemblies is 85-105°C (185-221°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, board mass or size and component mix 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.

Leaded solders (Sn63Pb37) will require a dwell time of 2-4 seconds. Lead-free solders (Sn96.5Ag3.0Cu0.5) will require a dwell time in the wave of 4-8 seconds. The conveyor speed should be adjusted to accomplish the proper contact time then the preheat zones set to accomplish the proper preheating temperatures. If there is 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-20 Test Kit # 53-0000-0200 is 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 an incoming inspection device or if a container had been left open for any period of time allowing the solvents to evaporate. The flux thinner is Kester's 4662.

## Cleaning

985M residues are non-conductive, non-corrosive and do not require removal in most applications. If residue removal is required, call Kester Technical Support.

## Storage 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 10-25°C (50-77°F).

## Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet (SDS) and warning label before using this product.