

# **Surclean Brightflow 210LF Liquid Flux**

## **No Clean for Lead Free and Lead alloys - Technical data sheet**

### **DESCRIPTION**

Brightflow 210LF No-Clean is a homogeneous mixture of halogen-free, low solids organic flux designed for wave-soldering conventional and surface mount PCB assemblies. 210LF gives superior foaming characteristics with a uniform, stable head of small bubbles. 210LF exhibits excellent wetting and fluxing activities with essentially no residue left on the assembly after soldering. 210LF eliminates the requirement for cleaning without degradation of the boards surface insulation resistance.

### **BENEFITS**

- Bellcore compliant
- Excellent wetting
- Bright, shiny solder joints
- Low residue
- Rosin/Resin free
- Pin testable

### **APPLICATION METHODS**

For mass wave soldering of bare copper and solder plated circuit boards. Flux can be applied by foam, spray, or wave methods. Flux deposition, density, and uniformity are critical to successful use of low solids no-clean flux. After foam or wave application, an air knife should be used to remove excess flux from the assembly. Pre-heating the assembly will partially volatilize the solvents, enhance oxide removal, and promote optimum wicking as well as superior solder joint formation. The degree of pre-heat is dependent on many variables; such as type of components, substrates, and conveyor speed. The optimum pre-heat temperature range is 90°-110 °C on the top side of the circuit board and the optimum solder temperature should be 255-265 deg. C.

### **PACKAGING & STORAGE**

Brightflow 210LF flux is available in 2.5 ltr, 5 ltr and 25ltr containers. It should be stored in a cool, dry place away from sources of ignition.

### **PHYSICAL & CHEMICAL CHARACTERISTICS**

Color and Appearance	-Light Straw Liquid
Solids Content, % (By wt.)	-4.55
Specific Gravity	-0.810 +/-0.006
Flash Point	-53°F
Surface Insulation Resistance	Ohms J-STD-004 >1.00 x 10 <sup>11</sup>
Acid Number	-40-45
Flux Classification per J-STD	-ORL0
004 Copper Mirror Test	-Pass (no complete breakthrough)
Silver Chromate Test	
(Chloride and Bromide)	-Pass (no discolouration)
Spot Test (Flouride)	-Pass (no colour change)
Corrosion Test	-Pass (no evidence of corrosion)
Shelf life (un-opened)	-2 years

## **PROCESS CONTROL**

Control of the flux is necessary to ensure a consistent amount of flux is applied to assemblies. (Note:-If flux is applied by spraying application, flux control is not required and replacement of flux due to contamination also does not apply) Due to the very low solids percentage of no-clean fluxes, specific gravity is not an accurate measure for solids content. Monitoring and controlling acid number is recommended to maintain the proper flux concentration. Titration may be accomplished with the HDT-200 Digital Titration Kit, available from Surclean or DKL Metals. Control of the flux can be achieved with Surclean F210 Thinners. Debris and contaminants will accumulate in the flux reservoir. Periodically, the replacement of the flux is required for consistent soldering performance, and to prevent debris build-up on the circuit assembly. This should be performed every 35-40 hours of operation.

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