



# QUALITEK®

## 392-35 Liquid Flux, No-Clean for Lead Free applications.

### DESCRIPTION

392-35 no-clean is a homogeneous mixture of halogen-free, low solids organic flux designed for wave-soldering conventional and surface mount PCB assemblies. 392-35 provides superior foaming characteristics with a uniform, stable head of small bubbles. 392-35 exhibits excellent wetting and fluxing activities with essentially no residue left on the assembly after soldering. 392-35 eliminates the expense of cleaning without surface insulation resistance degradation.

### 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. 392-35 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 (194°-230°F) on the top side of the circuit board.

### PACKAGING & STORAGE

392-35 flux is available in 5ltr, 20ltr and 200 ltr containers. It should be stored in cool, dry place away from ignition sources.

### PHYSICAL & CHEMICAL CHARACTERISTICS

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

### PROCESS CONTROL

Control of the flux is necessary to ensure a consistent amount of flux is applied to assemblies. 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 Qualitek HDT-200 Digital Titration Kit. Control of the flux can be achieved with Qualitek 300A thinner. 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. Note:- If flux is applied by spraying application, flux control is not required and replacement of flux due to contamination also does not apply.

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