



QUALITEK®

302 Flux Low Solids, No-Clean

DESCRIPTION

302 no-clean is a homogeneous mixture of halogen-free, low solids organic flux designed for wave-soldering conventional and surface mount PCB assemblies. 302 provides superior foaming characteristics with a uniform, stable head of small bubbles. 302 exhibits excellent wetting and fluxing activities with essentially no residue left on the assembly after soldering. 302 eliminates the expense of cleaning without surface insulation resistance degradation.

BENEFITS

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

APPLICATION METHODS

For mass wave soldering of bare copper and solder plated circuit boards. 302 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

302 flux is available in 1, 5 and 55 gallon containers. It should be stored in cool, dry place away from ignition sources.

PHYSICAL & CHEMICAL CHARACTERISTICS

Color and Appearance	Light Straw Liquid
Solids Content, % (By Wt.)	1.7 - 2.3
Specific Gravity	0.800 +/- 0.006
Flash Point	53°F
Surface Insulation Resistance -Ohms	
J-STD-004	>1.00 x 10 ¹¹
Acid Number	19.0 – 21.0
Flux Classification per J-STD-004	ORL0
Copper Mirror Test	Pass (No complete breakthrough)
Silver Chromate Test	
Chloride and Bromide	Pass (No discoloration)
Spot Test (Fluoride)	Pass (No color change)
Corrosion Test	Pass (No evidence of corrosion)
Shelf life (un-opened)	2 years (DOM)

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.

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Consult MSDS for health and safety information