



QUALITEK®

350NVOC/350NVOCF Flux VOC-Free, No-Clean

DESCRIPTION

350NVOC/NVOCF is a water-based, water-soluble, halide free flux designed for mass soldering of conventional and surface mount PCB assemblies. 350NVOC is intended for spraying applications only. 350NVOCF may be used for foaming operations.

BENEFITS

- Rapid wetting on virtually all types of substrates
- CFC Free
- VOC Free
- Halide Free
- Compatible with most solder masks
- Non-corrosive, non-conductive residue
- Very bright, shiny solder joints

APPLICATION METHODS

350NVOC/NVOCF no-clean flux may 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 fluxing, 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 and solder joint formation. The optimum pre-heat temperature range is 104^o-115^oC (220^o-240^oF) on the top side of the assembly.

PACKAGING & STORAGE

350NVOC/350NVOCF flux is available in 1, 5 and 55 gallon containers. It should be stored in cool, dry place away from ignition sources. Due to this formulation being water-based, it is subject to freezing. A minimum storage temperature of 40^oF is recommended. Should the flux become frozen, 350NVOC/NVOCF will reconstitute upon returning to a liquid.

PHYSICAL & CHEMICAL CHARACTERISTICS

Color and Appearance	Light Straw Liquid
Solids Content, % (By Wt.)	4.1 – 4.5
Flash Point	None
Specific Gravity	1.010 +/- 0.010
pH(as is)	3.50
Surface Insulation Resistance-Ohms	
J-STD-004	>1.00 x 10 ⁸
Acid Number	18.0 – 22.0
Flux Classification per J-STD-004	ORLO
Copper Mirror Test	Pass (No complete breakthrough)
Silver Chromate Test	
Chloride and Bromide	Pass (No discoloration)
Spot Test (Flouride)	Pass (No color 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. 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 DI water. 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