



QUALITEK®

391S Flux Low Solids, No-Clean

DESCRIPTION

Qualitek 391S is a homogeneous mixture of halogen-free, low solids organic flux designed for wave-soldering conventional and surface mount PCB assemblies. 391S exhibits excellent wetting and fluxing activities with essentially no residue left on the assembly after soldering. 391S eliminates the expense of cleaning with no surface insulation resistance degradation, and bright, lustrous solder joints.

BENEFITS

- Halogen free
- Excellent wetting
- Bright, shiny solder joints
- Tack Free residues
- Rosin/Resin free
- Excellent for Pin testing

APPLICATION METHODS

391S no-clean flux may be applied by foam, spray, or wave methods. 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 90°–110°C (194°–230°F) on the top side of the assembly.

PACKAGING & STORAGE

391S 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	Colorless Liquid
Solids Content, % (By Wt.)	1.5-2.5
Specific Gravity@20°C	0.804± 0.005
Flash Point (TCC)	16°C
Surface Insulation Resistance-Ohms	
J-STD-004	>1.00 x 10 ¹¹
Acid Number	18.0+/-2.0
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 (Fluoride)	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 Qualitek 300 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