

QUALITEK[®] 380 NO CLEAN ROSIN FLUX

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Description

Qualitek® 380 is a No Clean, Rosin-based, halide-free, low solids flux designed for tin-lead wave soldering applications. Qualitek 380 has been shown to be very effective with selective soldering applications and through-hole soldering. Residues are non-corrosive and 380 does not contribute to circuit board insulation resistance degradation.

Main Features

- Non-corrosive residues
- Halide-free
- Excellent wetting on protected copper and solder-coated surfaces
- Designed for Leaded solder systems

Technical Data

	Specification	Test Method
Flux Classification	ROL0	IPC-J-STD-004B
Copper Mirror	Pass	IPC-TM-650 2.3.32
Color and Appearance	Light Straw Liquid	
Corrosion	Pass	IPC-TM-650 2.6.15
SIR	Pattern up 6.02x 10 ¹¹ ohms Pattern down 2.41 x 10 ¹² ohms	IPC-TM-650 2.6.3.3
Specific Gravity	0.793 ± 0.006	
Solids Content	3.3 ± 0.3	IPC-TM-650 2.3.34
Acid Value	16.2 – 19.2	IPC-TM-650 2.3.13

Applications

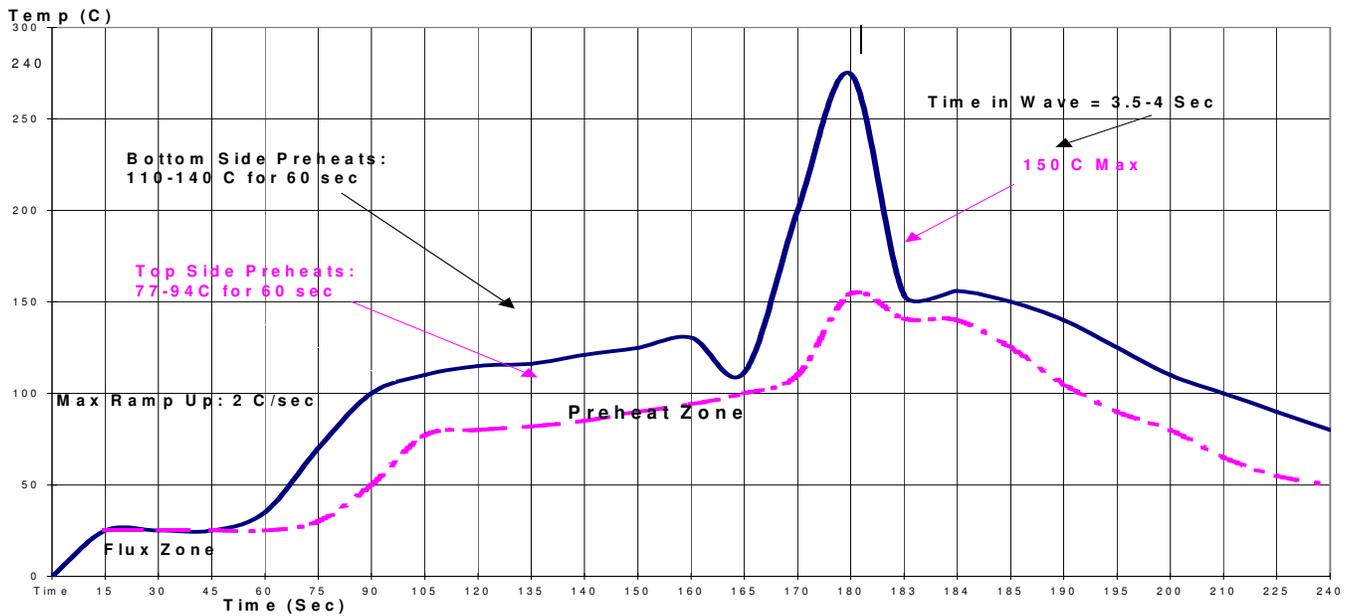
Flux Application

For mass wave soldering of OSP and plated circuit boards, spray, foam or wave fluxing can be utilized to apply this flux. Flux deposition density and uniformity are critical to successful use of low solids no-clean flux. If foam fluxing, the foam fluxer should be supplied with compressed air, which is free of oil and water. The flux tank should be full at all times. The surface of the flux should be 1-½ inches above the top of the flux aerator, or flux stone. Pressure should then be adjusted to produce the optimum foam height with a fine uniform foam head. After fluxing, an air knife should be used to remove excessive flux from the assembly.

Uniformity of the spray flux coating can be visually checked by running a tempered glass plate (usually supplied by machine manufacturer) through the spray and preheat sections, and inspected before going across the wave.

OPERATING PARAMETERS	TYPICAL LEVEL
Amount of flux	Foam, Wave: 1000-2000 µg/in ² solids Spray: 750-1500 µg/in ² solids
Foam Fluxing Parameters	
Foam Stone Pore Size	20-50 µm
Flux Level Above Stone	1-1 ½ inches (25-40mm)
Chimney Opening	3/8-1/2 inch (10-13 mm)
Air Pressure	1-2 psi
Top Side Preheat Temperature	190-230 °F (85-110 °C)
Bottom Side Preheat Temperature	65 °F (35 °C) higher than topside
Conveyor Speed	4-6 feet/minute(1.2-1.8 meters/minute)
Contact Time in the Solder (including Chip & Lambda)	2.5-4.5 seconds
Solder Pot Temperature	Sn63/Pb37 491-500 °F (255-260 °C)

TYPICAL Leaded Wave Solder Profile (Sn63/Pb37)



Process Control

Control of flux during use is necessary to assure consistent flux deposition on the circuit board. Due to the very low solids content of no clean fluxes, specific gravity is not an accurate measure for assessing solids content. Monitoring and controlling acid number by titration is recommended for maintaining the proper flux concentration. Control of the flux can be achieved with 300A thinner to maintain fluxing activity.

Over time debris and contaminants may accumulate in the flux reservoir. Therefore, periodically replacing the flux and cleaning the reservoir is recommended for consistent performance and minimizing debris build-up.

Cleaning

380 is a no clean formulation; therefore, the residues are not required to be removed for typical applications. If residue removal is desired, the use of Everkleen 1005 Buffered Saponifier with a 5-15% concentration in hot 60 °C (140 °F) will aid in residue removal.

Storage & Shelf Life

Liquid flux should be stored in a 65-80°F environment away from direct heat and flame. Shelf life is 2 years from date of manufacture.

Packaging

380 No Clean Rosin Flux is available in

- 1 Gallon/1 Liter containers
- 5 Gallon/5 Liter containers
- 55 Gallon/20 Liter containers

Disposal

380 No Clean Rosin Flux contains hazardous ingredients therefore the flux should be disposed of in accordance with federal, state, local & federal authority requirements.

Qualitek[®] is a brand of Qualitek International, Inc.