

Qualitek 775 Water Soluble (OA) FLUX

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Physical Properties

Liquid Flux

Qualitek has developed a unique water-soluble flux system designed specifically for high temperature lead free alloys. It provides the fluxing activity levels that promote fast wetting action and maximum wetting spread. 775 flux eliminates skips and shorts often experienced in wave solder assembly.

Main Features

- Excellent wettability and High Activity
- Minimal icicling and bridging
- Immediate cleaning not required
- Compatible with Lead free & Leaded Solder Systems

	Specification	Test Method
Flux Classification	ORM1	JSTD-004
Copper Mirror	Partial removal of copper film	IPC-TM-650 2.3.32
Silver Chromate	Fail	IPC-TM-650 2.3.33
Corrosion (cleaned)	Pass	IPC-TM-650 2.6.15
SIR		
JSTD-004	5.99×10^{10} ohms	IPC-TM-650 2.6.3.3
pH	3.1-3.5	IPC-TM-650 2.3.13
Specific Gravity	0.873+/-0.005	
Solids Content	25.0-30.0	IPC-TM-650 2.3-34

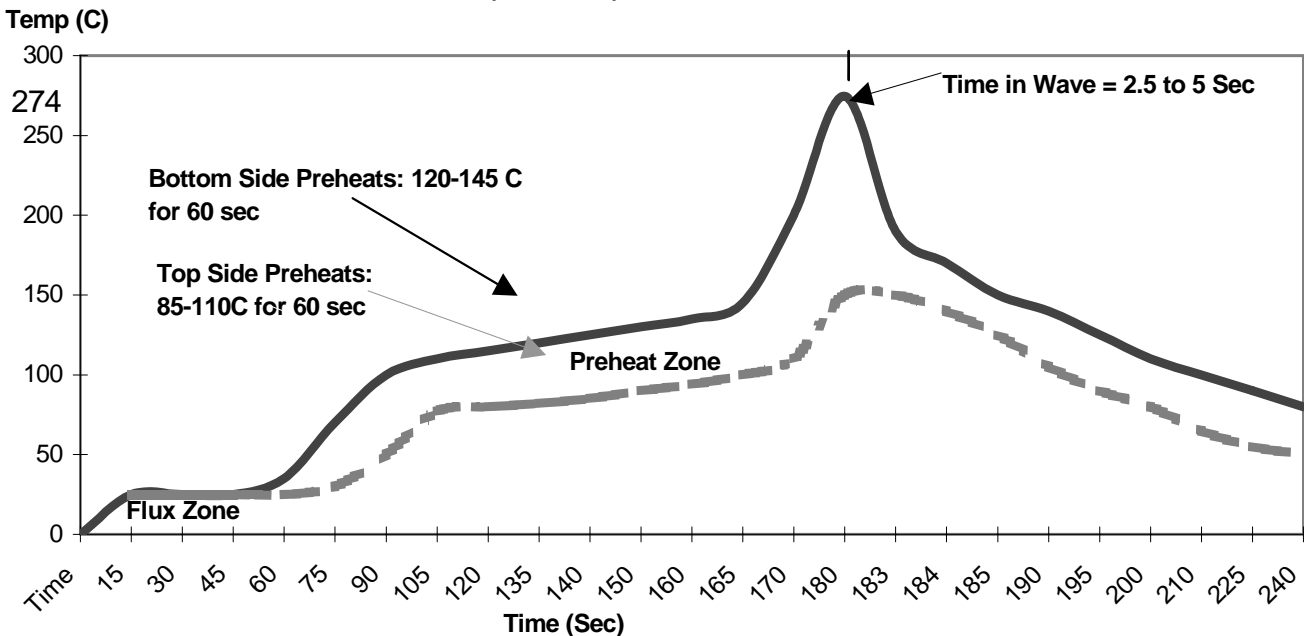
Application

For mass wave soldering of bare copper and plated circuit boards, spraying, or wave fluxing can be utilized to apply this 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 foam 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.

If spray fluxing, the uniformity of the coating can be visually checked by running a tempered glass plate (usually supplied by machine mfr.) through the spray and preheat sections.

OPERATING PARAMETERS		TYPICAL LEVEL
Amount of flux		Foam, Wave: 1000-2000 ug/in ² solids Spray: 750-1500 ug/in ² solids
Foam Fluxing Parameters		
	Foam Stone Pore Size	20-50 um
	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		
	Sn96.5/Ag3.5	500-530 °F (260-276 °C)
	Sn95/Ag5	536-565 °F (280-296 °C)
	Sn99.3/0.7Cu	510-530 °F (265-276 °C)
	SnAgCu	520-530 °F (271-276 °C)
	Sn95/Sb5	536-565 °F (280-296 °C)

TYPICAL Lead Free Wave Solder Profile (SNAGCU)



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Process Control

Control of flux during use is necessary to assure a consistent amount of flux is applied to assemblies. Monitoring and controlling specific gravity is recommended for maintaining the proper flux concentration. Density (specific gravity) can be done with a hydrometer. Control of the flux can be achieved with 700 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.

#775 Flux	
Specific Gravity	Thinner Required Fl oz/ga
0.872	0
0.875	6
0.879	12
0.882	17
0.885	22
0.889	26

Cleaning

As with all water-soluble fluxes, post-soldering cleaning is required. Residues can be easily removed with both hot and cold water, thus; no neutralizer is needed. De-ionized water should be used in the final rinse for cleanliness results beyond MIL-28809A. Spray pressures so be maintained at 20-30 psi and conveyor speed of 3-6ft/min.

Storage & Shelf Life

Liquid Fluxes storage should be in a 65-80°F environment away from direct heat and flame. When directly handling solder flux it is recommend to use appropriate gloves. Solder flux shelf life is 2 years from DOM (Date of Manufacture).

Disposal

775 contains hazardous ingredients therefore the flux should be disposed of in accordance with state & local authority requirements.

Packaging

775 Water Soluble Flux is available in

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