



free
halogen®

WF-711 WAFER FLUX

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DESCRIPTION

Qualitek has developed a water-soluble flux system designed to remove surface oxides from solder bumps on wafers. WF-711 produces hemispherical bumps without inducing solder bridging or solder removal. WF-711 is designed for both spin-coat and spray applications.

FEATURES

- No residue after several cleaning cycles
- Produces uniform bump shape
- Halogen-Free
- Compatible with Lead-Free & Leaded Solder Systems
- Non-corrosive to underbump metallization
- Avoids wetting on copper pillar

APPLICATION METHOD

For spin coating applications, an initial rotation speed should be used to spread this wafer flux uniformly onto the wafer. Secondly, we recommend using a high velocity rotation (~1200 rpm) to thin the flux and remove excess flux from the wafer surface.

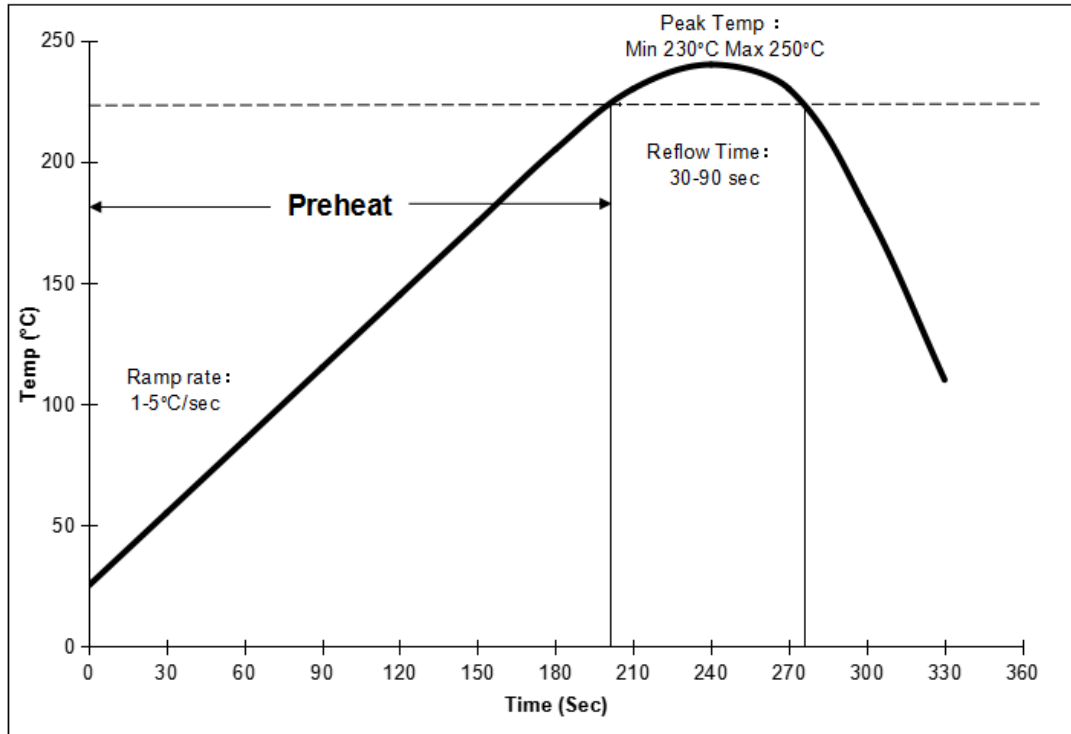
For spray applications, the flux storage tank should be sufficient enough for one 8-hour shift. The wafer flux may evaporate if left for a prolonged amount of time. Spray equipment should be cleaned frequently to ensure a high level of purity.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTIES	SPECIFICATIONS	METHOD
Flux Classification	ORH0	IPC-J-STD-004B
Appearance	Amber to Brown	Visual
pH - 5% Aqueous Solution	2.5 - 6.5	QIT
Halide Content	Halide-Free	IPC-TM-650 2.3.33 (Silver Chromate Test)
Halogen Content	Halogen-Free	EN 14582
Brookfield Viscosity (@10rpm)	100 - 300 cps	IPC-TM-650 2.4.34 (Modified)
Specific Gravity (25±0.5°C)	1.030 - 1.070	QIT
Surface Insulation Resistance (Cleaned)	> 1.0 x 10 ⁹ ohms	IPC-TM-650 2.6.3.3

REFLOW

The following is a recommended profile for leadfree alloy:



Reflow can be accomplished in a nitrogen controlled atmosphere at ≤ 100 ppm oxygen levels. The initial ramp rate should be 1 – 5°C per second to a peak temperature of 230 – 250°C. The time over liquidus temperature should be 30 - 90 seconds. The profile is recommended to the user as reference, and should be optimized by the user to meet individual process needs.

CLEANING

WF-711 can be cleaned with DI water or water with detergent added. Recommended cleaning conditions for spray-cleaning are 50 °C or higher for at least 5 minute at >1000 psi.

PACKAGING

1 Gallon/5 Liter, 5 Gallon/20 Liter containers

STORAGE & SHELF LIFE

Wafer Fluxes storage should be in a 20°C - 25°C environment away from direct heat and flame. When directly handling wafer flux, it is recommended to use appropriate gloves. Wafer flux shelf life is 1 year from DOM (Date of Manufacture).

DISPOSAL

WF-711 contains hazardous ingredients therefore the flux should be disposed of in accordance with the state & local authority requirements.