



**PF-709WB  
HALOGEN-FREE  
WATER-SOLUBLE  
WAFER BUMPING  
PASTE FLUX**

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**DESCRIPTION**

PF-709WB Halogen-Free, Water-Soluble Wafer Bumping paste flux formulation is a mixture of organic acids, thixotropic thickeners and surfactants which aid removal of post soldering residues during cleaning. The fluxing activity of the paste flux is comparable to halogen/halide containing paste fluxes. It has been designed for printing to deliver an optimum amount of paste flux onto the wafer. The high tackiness property provides an excellent attachment of solder spheres onto wafer during ball drop and ensures they are held in place during subsequent process steps. Paste flux is virtually free of air entrapment, resulting in consistent paste flux deposition.

**FEATURES**

- Water-Soluble
- Consistent printability
- Superior wetting with maximum activity
- Excellent tackiness & stable viscosity
- Excellent cleanability
- Long tackiness life
- Halogen-Free

**APPLICATION METHOD**

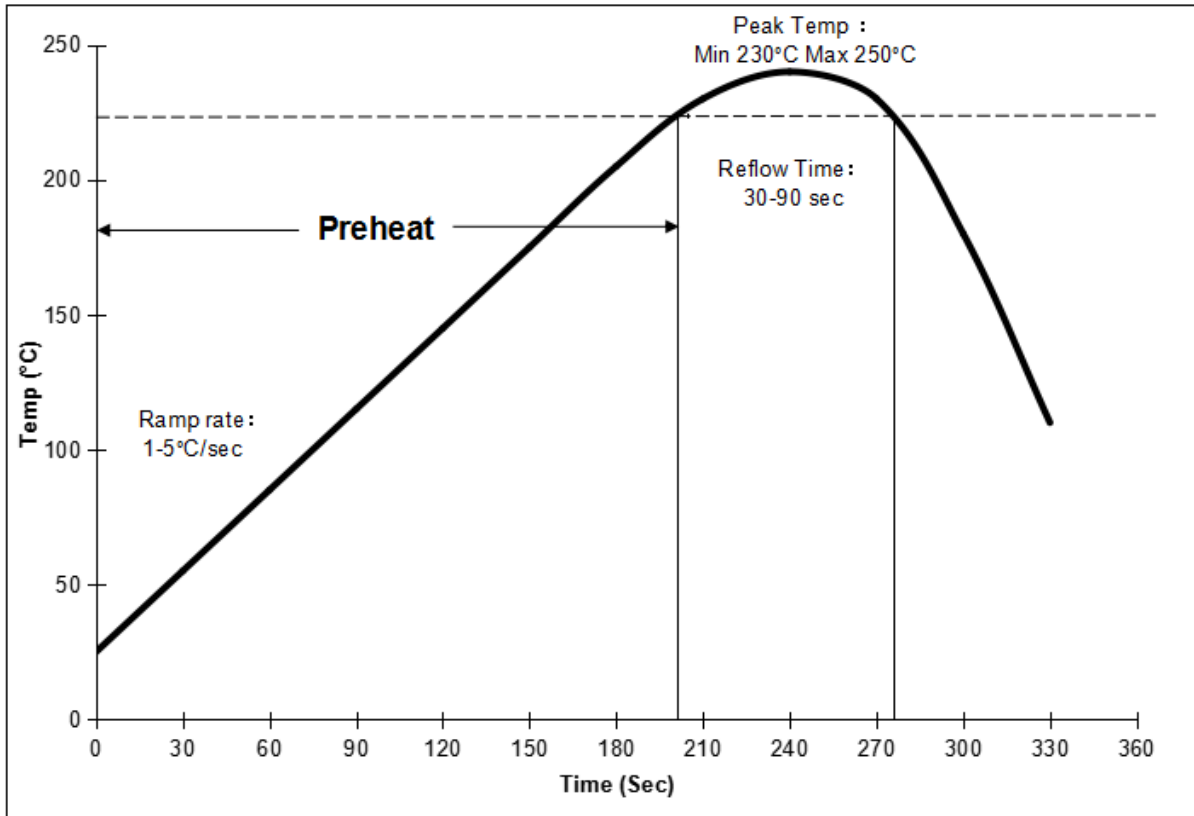
- Screen Printing

**PHYSICAL & CHEMICAL PROPERTIES**

PROPERTIES	SPECIFICATIONS	METHOD
Flux Classification	ORL0	IPC-J-STD-004B
Appearance	Amber	Visual
pH - 5% Aqueous Solution	4 - 6	QIT
Halide Content	Halide-Free	IPC-TM-650 2.3.33 (Silver Chromate Test)
Halogen Content	Halogen-Free	EN 14582
Malcom Viscosity (@10rpm)	45 - 85 Pa.s	IPC-TM-650 2.4.34.3 (Modified)
Tack Strength	100 - 200 gf	JIS Z 3284
Surface Insulation Resistance (Cleaned)	> 1.0 x 10 <sup>9</sup> 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  $\leq 100$  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.

**RESIDUE REMOVAL & CLEANING**

PF-709WB is a water-soluble formulation therefore the residues need to be removed. Residue removal can be achieved with the use of hot de-ionized water in either a batch or conveyorized cleaner. Water temperature should be 40 - 60°C with water pressure of 35 - 65 psi.

**PACKAGING**

PF-709WB paste flux is available in 150 gm 6 oz cartridge. Other packaging can be provided upon request.

**STORAGE & HANDLING**

PF-709WB can be stored at ambient temperature or refrigerated. Shelf life of paste flux is 6 months when stored at 2 - 25°C. If refrigerated, allow paste flux to reach ambient temperature prior to use.

**SAFETY DATA SHEET**

Contact Sales for SDS.