



# WS716



## Water Soluble Liquid Flux

### Features:

- Halide- and Halogen-Free
- Excellent Wetting
- Wide Process Window
- Easy to Clean Residues

### Description:

WS716 is a halogen- and halide-free, alcohol based, organically activated, rosin-free, water soluble liquid flux designed specifically for wave solder applications. WS716 is the liquid version of the WS-477S1 series solder paste. Though designed for application via foam fluxer, WS716 may also be applied by automated flux sprayers, dipped, or brushed on with favorable results. WS716 is a buffered flux with a wide activation range and exceptional wetting characteristics that produce bright shiny solder joints. WS716 performs well with bare copper, solder coated, and organic coated pwbs. Since WS716 flux is still active post-processing, all residues must be removed after soldering.

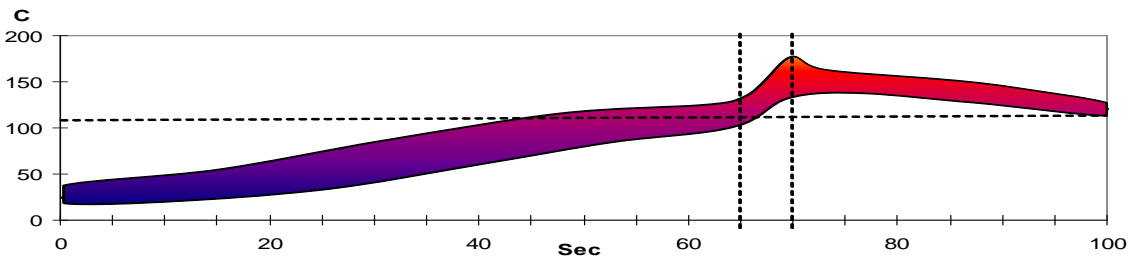
### Application:

- WS716 is formulated for application via foam, but may be sprayed, brushed or dipped as well. Flux pots should be plastic or titanium.
- For spraying, WS716 is ready to use directly from its container, no thinning is required. When spray fluxing, it is imperative that proper flux coverage and uniformity be achieved and maintained. A dry flux coating of 500 to 1500 micrograms per square inch is recommended as a starting point.
- When foaming, air stones should be supplied with compressed air, free of oil and moisture. Adjust foam head to achieve a uniform distribution of small bubbles for optimum flux coverage.
- During foaming applications it is periodically necessary to add AIM's Common Flux Thinner to replace that which is lost through evaporation.

### Process Control:

Specific gravity should be monitored and controlled either with an automated flux density controller, or manually with a hydrometer. Specific gravity should be maintained at .852-.925 for optimum performance. Dump and refill flux pot with fresh flux at least once per week when used daily. For spray flux applications, ensure proper coverage of pwb is maintained.

### Thermal Profile:



<b>RATE of RISE</b> 2-3°C / SEC MAX	<b>PROGRESS THROUGH</b> 66°C - 77°C (150°F - 170°F)	<b>PCB TOP SIDE TEMP</b> 87°C - 115°C (190°F - 240°F)	<b>COOLDOWN</b> ≤ 4°C
	≤ 40 SECONDS	JUST BEFORE WAVE	

### Cleaning:

WS716 can be cleaned in normal tap water; however, deionized water is recommended for the final rinse. A temperature of 38°C - 65°C (100°F - 150°F) is sufficient for removing any residues and will produce MIL-F-28809 ionic cleanliness levels. An in-line or other pressurized spray cleaning system is suggested, but is not required.

### Handling:

- WS716 has an unopened shelf life of 1 year when stored at room temperature.
- Do not store near fire or flame.
- Keep away from sunlight as it may degrade product.
- WS716 is shipped ready-to-use, no mixing necessary.
- Do not mix used and unused chemical in the same container.
- Reseal any opened containers.

### Safety:

- Use with adequate ventilation and proper personal protective equipment.
- Refer to the accompanying **Material Safety Data Sheet** for any specific emergency information.
- Do not dispose of any hazardous materials in non-approved containers.

### Physical Properties:

Parameter	Value
J-STD-004	ORH0
Visual	Clear, Colorless
Odor	Aromatic (Slightly)
Solids Content	16.79 %
Acid Number	77-103.75 mg KOH per gram flux

Parameter	Value
Specific Gravity	.852-.925 (water = 1)
Flash Point	< 10°C
Boiling Point	82°C
pH (1% solution /water)	3.23 – 4.23

### Corrosion Testing:

Parameter	Requirements	Results
Copper Mirror (24 hrs @ 25°C, 50%RH)	IPC-TM-650-2.3.32	High
Halide Test (Silver Chromate)	IPC-TM-650-2.2.33	Pass

### Surface Insulation Resistance:

Reference	Property	Pass-Fail Criteria	Results
IPC-TM-650 method 2.6.3.3 85°C / 85% R.H.	Control coupons	>1E+9 Ω at 96 and 168 hrs	Pass
	Sample coupons – pattern up	>1E+8 Ω at 96 and 168 hrs	Pass
	Sample coupons – pattern down	>1E+8 Ω at 96 and 168 hrs	Pass
	Post-test visual inspection	No dendrite growth or corrosion	Pass

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AIM IS ISO9001:2008 CERTIFIED& ISO14001:2004 CERTIFIED

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