



Technical Bulletin



Solder plus Support

WS716 Water Soluble Flux

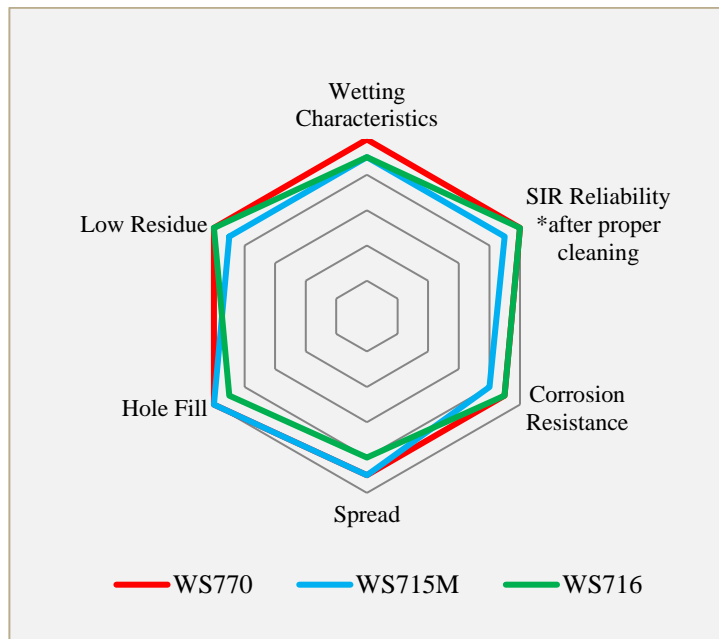
DESCRIPTION

WS716 is a halogen and halide-free, alcohol-based, organically activated, rosin-free, water soluble liquid flux designed for wave and selective solder applications. WS716 exhibits exceptional wetting characteristics that produce bright and shiny solder joints. WS716 can be used on all common surface finishes including ENIG, OSP and HASL. WS716 flux residues must be removed after soldering.

FEATURES AND BENEFITS

- Halide and Halogen-Free
- ORH0 per J-STD-004B
- Excellent Wetting
- Wide Process Window
- Easy to Clean Residues

CHARACTERISTICS



STORAGE & SHELF LIFE

WS716 has a sealed shelf life of one (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 chemicals in the same container. Reseal any opened containers. Storage conditions range from 4-40°C (40-100°F).

Parameter	Time	Temperature
Sealed Shelf Life	1 year	Room Temperature



SOLDER CONNECTION

Email: sales@solderconnection.co.uk | Tel: +44(0)1291 624 400

APPLICATION

WS716 is formulated for application via spray, brush, mist, or dip. WS716 is ready to use directly from its container, no thinning required. When spray fluxing, proper flux coverage and uniformity are imperative. A dry flux coating of 500-1500 micrograms per square inch is typical.

PROCESS GUIDELINES

Using thermocouples attached to the top of the PCB, the topside assembly temperature should be between 85-110°C (185-230°F). It is important that the flux be dry prior to entering the wave regardless of temperature or spattering will occur. Smoking may occur and is considered normal if it is not excessive. Recommended contact time with the wave is dependent on wave configuration, pot temperature, alloy type and thermal mass of the assembly with 3-8 seconds being typical.

CLEANING

WS716 residues must be cleaned using DI water or DI water in combination with appropriate cleaners. Deionized water is recommended for the final rinse. Residues should be removed within 8 hours of application. Contact AIM for additional information.

HEALTH & SAFETY

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

TEST DATA SUMMARY

Name	Test Method	Results
IPC Flux Classification	J-STD-004	ORH0
IPC Flux Classification	J-STD-004B 3.3.1	ORH0
Name	Test Method	Results
Copper Mirror	J-STD-004B 3.4.1.1 IPC-TM-650 2.3.32	HIGH
Corrosion	J-STD-004B 3.4.1.2 IPC-TM-650 2.6.15	HIGH
Quantitative Halides	J-STD-004B 3.4.1.3 IPC-TM-650 2.3.28.1	≤ 0.0
Qualitative Halides, Silver Chromate	J-STD-004B 3.5.1.1 IPC-TM-650 2.3.33	PASS
Qualitative Halides, Fluoride Spot	J-STD-004B 3.5.1.2 IPC-TM-650 2.3.35.1	PASS
Surface Insulation Resistance (Cleaned)	J-STD-004 3.4.1.4 IPC-TM-650 2.6.3.3	PASS
	J-STD-004B 3.4.1.4 IPC-TM-650 2.6.3.7	PASS
Flux Solids, Nonvolatile Determination	J-STD-004B 3.4.2.1 IPC-TM-650 2.3.34	11.3 Typical
Acid Value Determination	J-STD-004B 3.4.2.2 IPC-TM-650 2.3.13	99.2 mg KOH per gram flux Typical
Flux Specific Gravity Determination	J-STD-004B 3.4.2.3 ASTM D-1298	0.87 (water = 1) Typical
Visual	J-STD-004B 3.4.2.5	Slightly Yellow
Wetting	J-STD-005A 3.9 IPC-TM-650 2.4.45	PASS

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