



Technical Bulletin



Solder plus Support

W20 Water Soluble Solder Paste

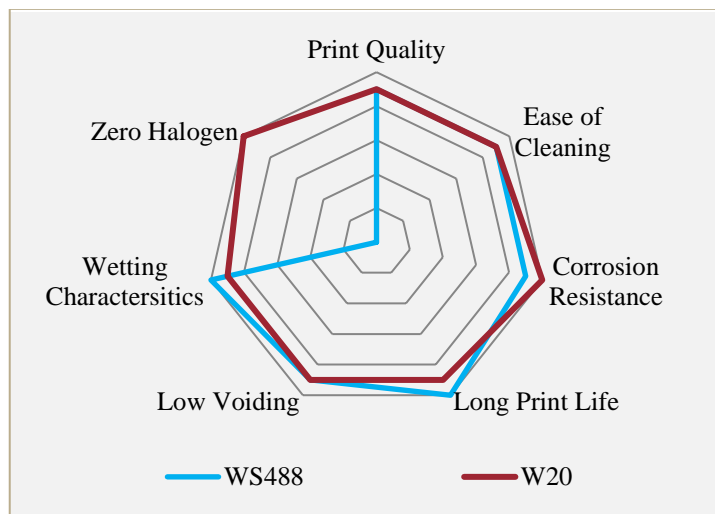
DESCRIPTION

AIM's W20 water soluble solder paste is a zero halide/halogen flux formula. W20 has been engineered for enhanced wetting performance on all solderable electronic surfaces. W20 exhibits excellent print characteristics and 8+ hours of stencil life. W20 highly soluble residues are easily removed in plain water, even under low stand-off components. This all-purpose water soluble product was created to meet the industry's demand for a consistently reliable zero halogen water soluble solder paste.

FEATURES AND BENEFITS

- Zero Halide/Halogen per J-STD-004/B
- RoHS Compliant*
- DI Water Wash
- Low Foaming
- Extended Cleaning Window of 2+ Weeks
- 8+ Hour Stencil Life

CHARACTERISTICS

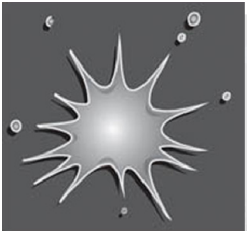


*For lead-free alloys

STORAGE & SHELF LIFE

Do not add used paste to unused paste. Store used paste separately; keep unused paste tightly sealed with internal plug or end cap in place. After opening, solder paste shelf life is environment and application dependent. See AIM's paste handling guidelines for further information. Alloy and storage conditions may affect shelf life. Please refer to W20 Certificate of Analysis for product specific information.

Parameter	Time	Temperature
Sealed Refrigerated Shelf Life	6 Months	0°C-12°C (32°F-55°F)
Sealed Unrefrigerated Shelf Life	2 Weeks	< 25°C (< 77°F)



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CLEANING

Pre-Reflow: AIM DJAW-10 effectively removes W20 solder paste from stencils while in process. DJAW-10 can be hand applied or used in under stencil wipe equipment. DJAW-10 will not dry W20 and will enhance transfer properties. Do not over-apply DJAW-10. Do not apply DJAW-10 to stencil topside. Isopropanol (IPA) is not recommended in process, but may be used as a final stencil rinse.

Post-Reflow Flux Residue: AIM recommends W20 flux residue to be removed within 24 hours for optimal results but can be left on the board for up to 2 weeks. Cleaning can be performed in plain water between 50°C-60°C (120°F-140°F) following with a final rinse in DI water.

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.

REFLOW PROFILE

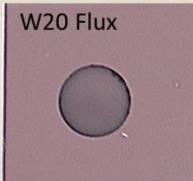
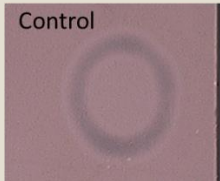
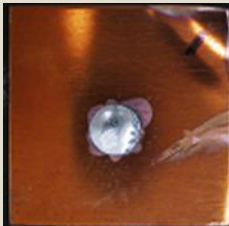
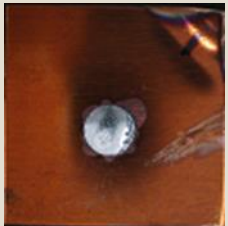
Detailed profile information may be found at <http://www.aimsolder.com/reflow-profile-supplements>.

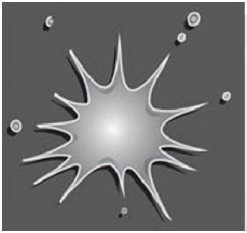
PRINTING

Recommended Initial Printer Settings - Dependent on PCB and Pad Design

Parameter	Recommended Initial Settings
Squeegee Pressure	0.30-0.60 kg/cm (1.7- 3.4 lbs/In.) of blade
Squeegee Speed	25-120 mm/sec (1-4.7"/sec)
Snap-off Distance	On Contact 0.00 mm
PCB Separation Distance	0.75 - 2.0 mm
PCB Separation Speed	3-6 mm/sec


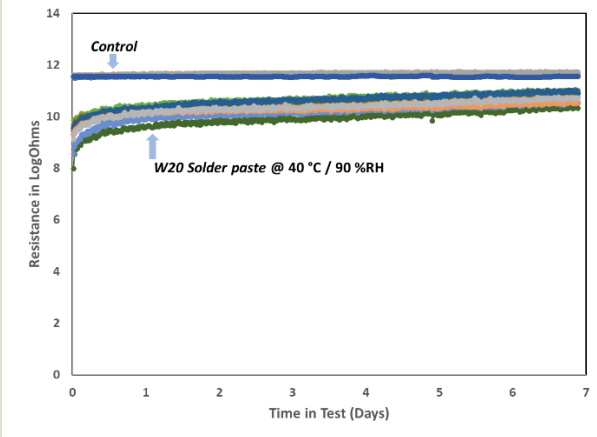
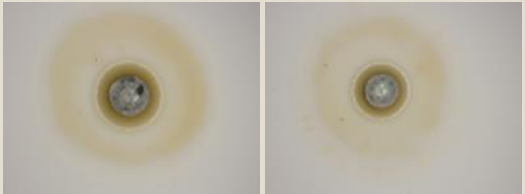
TEST DATA SUMMARY

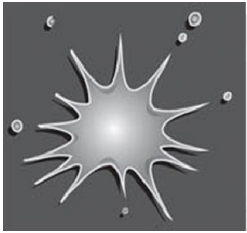
Name	Test Method	Results	
IPC Flux Classification	J-STD-004 3.3	ORM0	
IPC Flux Classification	J-STD-004B 3.3	ORM0	
Name	Test Method	Typical Results	Image
Copper Mirror	J-STD-004B 3.4.1.1 IPC-TM-650 2.3.32	MED = < 50% Breakthrough	@ 23 °C / 55 %RH
			 
Corrosion	J-STD-004B 3.4.1.2 IPC-TM-650 2.6.15	PASS	 



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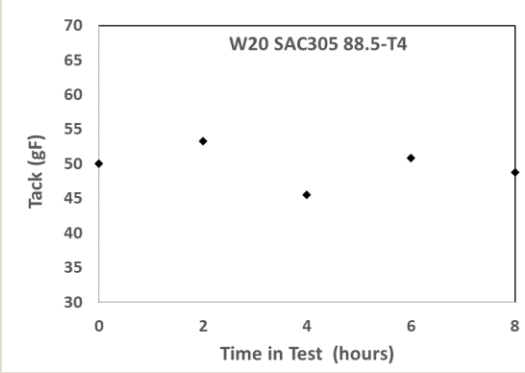
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Name	Test Method	Typical Results	Image
Halogen	J-STD-004B 3.5.4 EN 14582	400 ppm Typical	Halogen Free
Quantitative Halides	J-STD-004B 3.4.1.3 IPC-TM-650 2.3.28.1	200 ppm Typical	Halide Free
Qualitative Halides, Silver Chromate	J-STD-004 3.5.1.1 IPC-TM-650 2.3.33	None Detected	
Qualitative Halides, Fluoride Spot	J-STD-004B 3.5.1.2 IPC-TM-650 2.3.35.1	No Fluoride	
Surface Insulation Resistance	J-STD-004B 3.4.1.4 IPC-TM-650 2.6.3.7	PASS, All measurements on test patterns exceed 100 MΩ	
Acid Value Determination	J-STD-004B 3.4.2.2 IPC-TM-650 2.3.13	54.2 mgKOH/g flux Typical	
Viscosity (Brookfield)	J-STD-004B 3.4.2.4 IPC-TM-650 2.4.34	500 - 800 kcps Typical	
Viscosity (Malcolm)	J-STD-004B 3.4.2.4 IPC-TM-650 2.4.34	150 – 210 Pa.s Typical	
Visual	J-STD-004B 3.4.2.5	PASS	
Slump	J-STD-005A 3.6 IPC-TM-650 2.4.35	PASS	
Solder Ball	J-STD-005A 3.7 IPC-TM-650 2.4.43	PASS	



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Tack	J-STD-005A 3.8 IPC-TM-650 2.4.44	43.8 gf Typical	
Wetting	J-STD-005A 3.9 IPC-TM-650 2.4.45	PASS	

*For reference only. Not to be used as incoming product specifications.

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