W20 WATER SOLUBLE SOLDER PASTE

FEATURES

- Zero Halide/Halogen per J-STD-004/B
- RoHS Compliant*
- DI Water Wash
- Low Foaming
- Available in T4 and T5 powders sizes
- Extended Cleaning Window of 2+ Weeks
- 8+ Hour Stencil Life

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.

CHARACTERISTICS

HANDLING & STORAGE

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)

*T4 powder size. Contact AIM for T5 shelf-life information.

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.

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.

*For lead-free alloys

REFLOW PROFILE

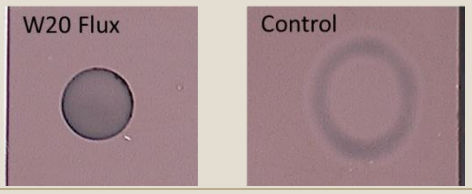
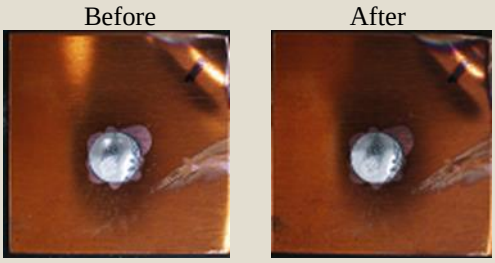
Detailed profile information may be found at http://www.aimsolder.com/reflow-profile-supplements. Contact AIM for additional information.

PRINTING

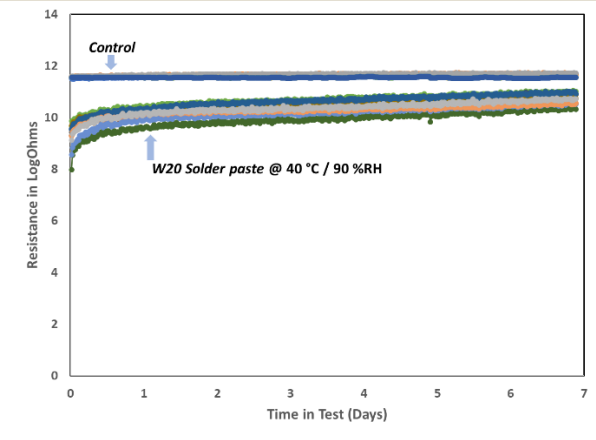
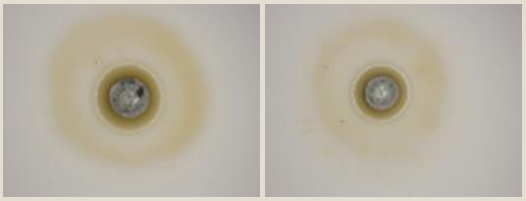
Recommended Initial Printer Settings - Dependent on PCB and Pad Design	
Parameter	Recommended Initial Settings
Squeegee Pressure	0.30-0.60 kg/cm (1.7- 3.4 lbs/In.) of blade
Squeegee Speed	25-120 mm/sec (1-4.7"/sec)
Snap-off Distance	On Contact 0.00 mm
PCB Separation Distance	0.75 - 2.0 mm
PCB Separation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

TEST DATA SUMMARY

Note: All test data is for T4 SAC305 formulation.

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	
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

*All information for reference only. Not to be used as incoming product specifications or for process design. Consult Certificate of Analysis for product specific information.

Name	Test Method	Typical Results	Image
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	 15 minutes 4 hours

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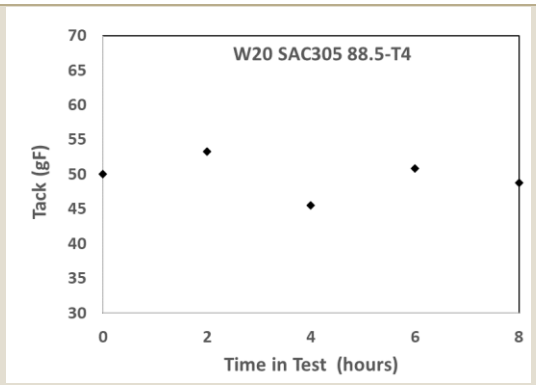
Tack	J-STD-005A 3.8 IPC-TM-650 2.4.44	43.8 gf Typical	
Wetting	J-STD-005A 3.9 IPC-TM-650 2.4.45	PASS	

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