Solder plus Support

M8 NO CLEAN SOLDER PASTE

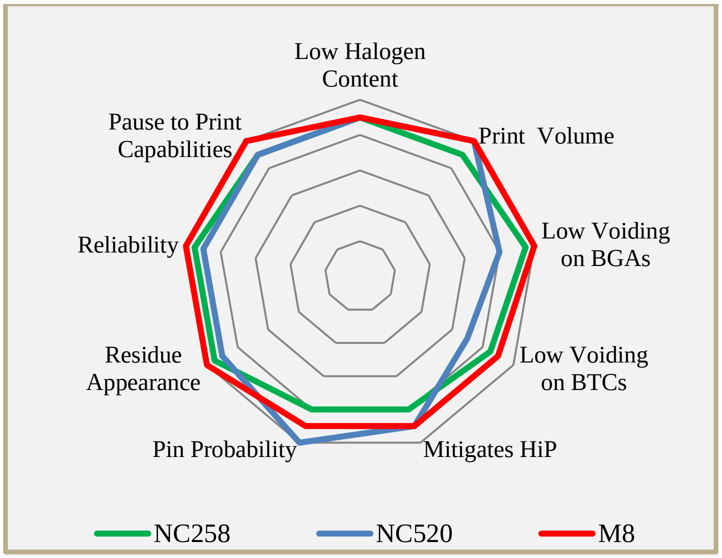
FEATURES

- Low Voiding: <5% on BGA and <10% on BTC
- Excellent Print Transfer Efficiencies <0.50 AR
- Eliminates HiP Defects
- REACH and RoHS* Compliant
- Formulated for use with T4 and Finer Powders
- Powerful Wetting on Lead-Free Surface Finishes
- Minimal Transparent Residue – LED Compliant
- Passes Bono and Automotive SIR Testing

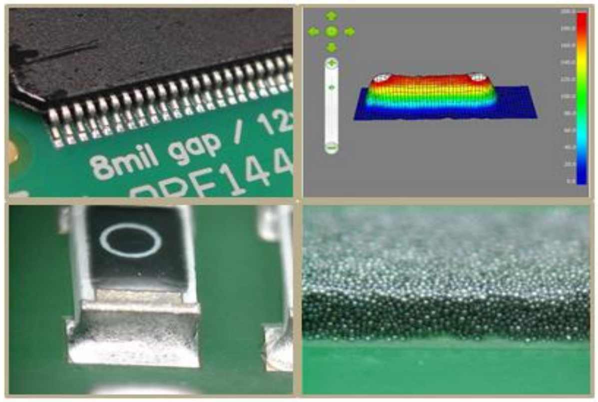
DESCRIPTION

M8 no clean solder paste brings performance to the next level. Developed in combination with T4 and finer mesh leaded and lead-free alloy powders, M8 provides stable transfer efficiencies required for today's UFP and umBGA devices, reducing DPMO on the most challenging applications. M8 activators will reduce wetting related defects such as HiP (head-in-pillow) and provide smooth shiny joints. M8 has reduced BGA and BTC voiding to as low as <5% on BGA and <10% on BTC ground pads. M8 passes stringent automotive and high reliability SIR and electrochemical test requirements.

CHARACTERISTICS



*Lead-free alloys.



HANDLING & STORAGE

PARAMETER	TIME	TEMPERATURE
Sealed Refrigerated Shelf Life	1 year	0°C-12°C (32°F-55°F)
Sealed Unrefrigerated Shelf Life	3 months	< 25°C (< 77°F)

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 M8 Certificate of Analysis for product specific information.

CLEANING

Pre-Reflow: AIM DJAW-10 effectively removes M8 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 M8 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: M8 residues can remain on the assembly after reflow and do not require cleaning. Where cleaning is mandated, AIM has worked closely with industry partners to ensure that M8 residues can be effectively removed with common defluxing agents. Contact AIM for cleaning compatibility information.

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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	0.4 - 0.7kg/25mm
Squeegee Speed	13 – 152 mm/second
Snap-off Distance	On Contact 0.00 mm
PCB Separation Distance	0.75 - 2.0 mm
PCB Separation Speed	3 - 20 mm/second

TEST DATA SUMMARY

NAME	TEST METHOD	RESULTS
IPC Flux Classification	J-STD-004	ROL0
IPC Flux Classification	J-STD-004B 3.3.1	ROL1

NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Mass Density*		4.2 gr/cm^3 (*SAC305)	
Copper Mirror	J-STD-004B 3.4.1.1 IPC-TM-650 2.3.32	LOW	
Corrosion	J-STD-004B 3.4.1.2 IPC-TM-650 2.6.15	PASS	Before  After 
Quantitative Halides	J-STD-004B 3.4.1.3 IPC-TM-650 2.3.28.1	Br: 0.24% Cl: 0.0% Typical	
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	No Fluoride	

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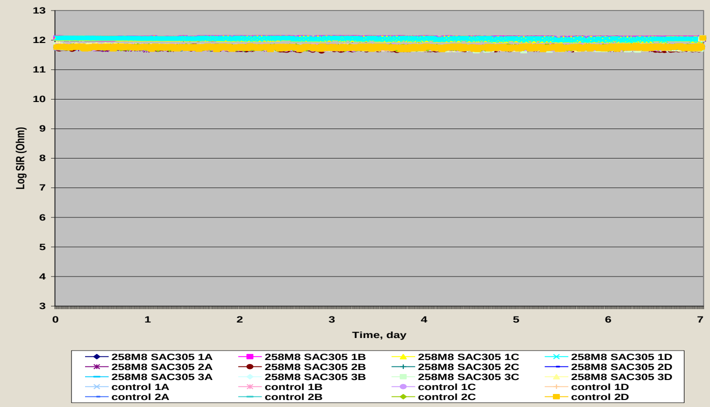
NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Surface Insulation Resistance	J-STD-004B 3.4.1.4 IPC-TM-650 2.6.3.7	All measurements on test patterns exceed 100 MΩ	
Bono Testing		PASS Fc<8.0 Typical	
Oxygen Bomb Halogen Testing	EN14582:2007 SW 9056 SW 5050	Br 265 mg/Kg Cl <122 mg/Kg	
Electrochemical Migration	J-STD-004B 3.4.1.5 IPC-TM-650 2.6.14.1	PASS	
Flux Residue Dryness	IPC-TM-650 2.4.47	PASS	Before  After 
Flux Solids, Nonvolatile Determination	J-STD-004B 3.4.2.1 IPC-TM-650 2.3.34	94.8% Typical	
Acid Value Determination	J-STD-004B 3.4.2.2 IPC-TM-650 2.3.13	136 mgKOH/g flux Typical	
Viscosity (Brookfield)	J-STD-005A 3.5.1 IPC-TM-650 2.4.34	400-1000 Kcps	Formula Dependent
Viscosity (Malcom)	J-STD005A 3.5.1 IPC-TM650 2.4.34	70-300 Pa.S	Formula Dependent

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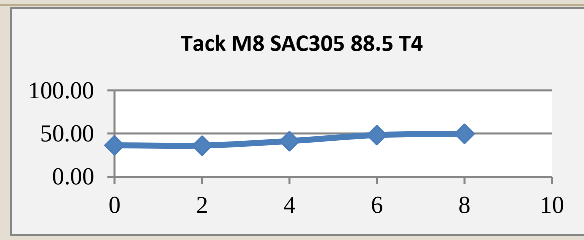
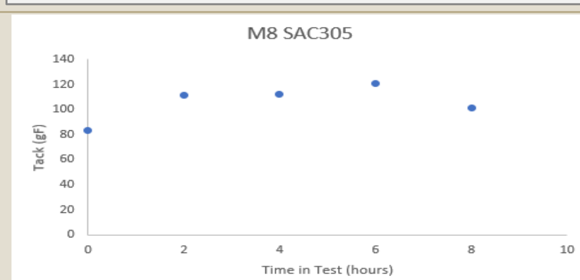
NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Visual	J-STD-004B 3.4.2.5	PASS	
Slump	J-STD-005A 3.6 IPC-TM-650 2.4.35	PASS	
Spread Test	J-STD-004B 3.7.2 IPC-TM-650 2.4.46	PASS	
Solder Ball	J-STD-005A 3.7 IPC-TM-650 2.4.43	PASS	 15 min  4 hrs
Tack	J-STD-005A 3.8 IPC-TM-650 2.4.44	36.1 gf Time 0 Typical	
Tack	JIS Z 3284	105.92 gf Typical	

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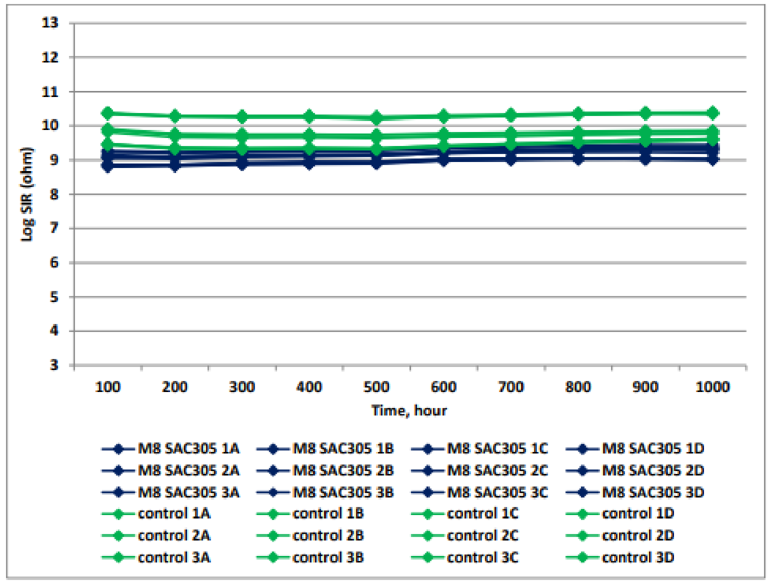
NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Ion Migration	MS184-01, 4.3.5	PASS	

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