

## M8 NO CLEAN SOLDER PASTE

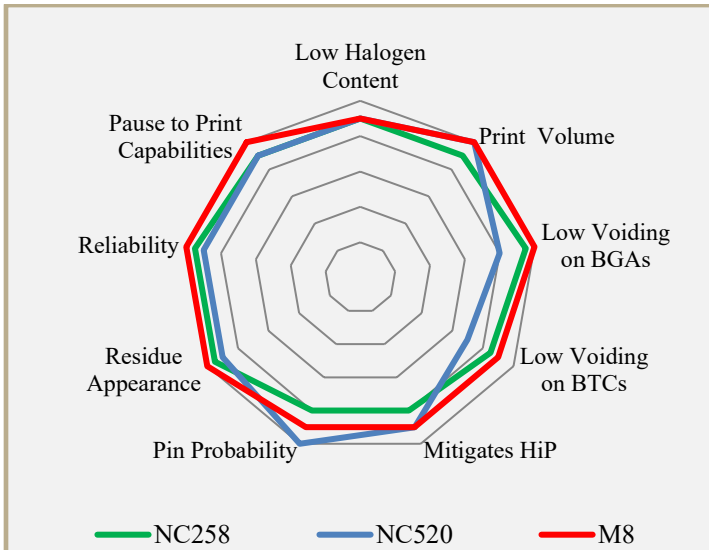
### FEATURES

- 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, T5, 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, T5, 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

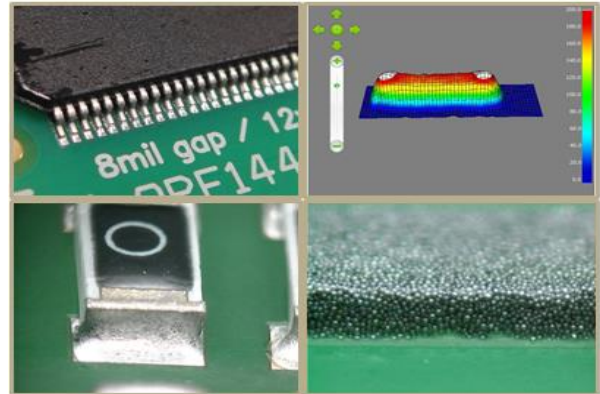


\*Lead-free alloys.

### REFLOW PROFILE

\*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.

**DISCLAIMER** The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to <http://www.aimsolder.com/terms-conditions> to review AIM’s terms and conditions.



### 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)

\*T4 powder size. Contact AIM for finer powder 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 M8 Certificate of Analysis for product specific information.

### CLEANING

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

**Post-Reflow Flux Residue:** 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 residues can be effectively removed with common defluxing agents. Contact AIM for cleaning information.





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
Solder Paste Stencil Life	>8 hours

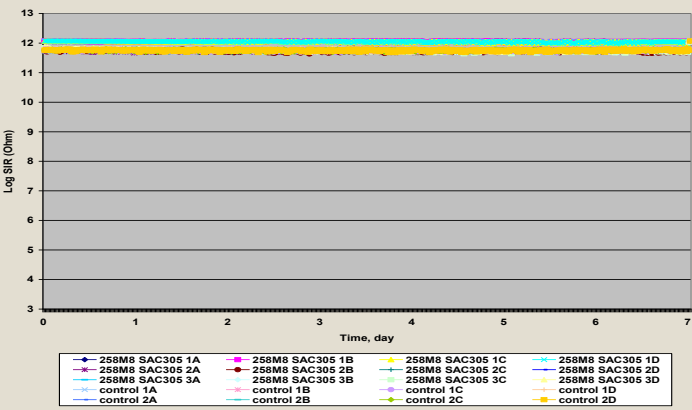

## TEST DATA SUMMARY

**Note:** All test data is for T4 SAC305 formulation.

NAME	TEST METHOD	RESULTS	
IPC Flux Classification	J-STD-004 A	ROL0	
IPC Flux Classification	J-STD-004 Current Rev	ROL1	
NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Mass Density*		4.2 gr/cm <sup>3</sup> (*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	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Before</p>  </div> <div style="text-align: center;"> <p>After</p>  </div> </div>
Quantitative Halides	J-STD-004B 3.4.1.3 IPC-TM-650 2.3.28.1	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	


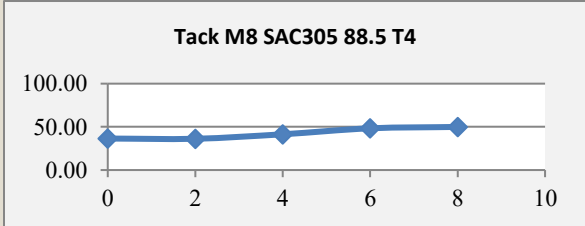
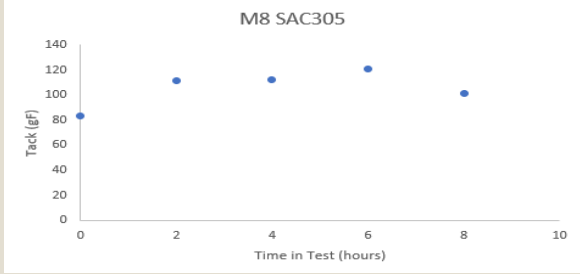
\*All information for reference only. Not to be used as incoming product specifications or for process design. Consult Certificate of Analysis for product specific information.

**DISCLAIMER** The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to <http://www.aimsolder.com/terms-conditions> to review AIM's terms and conditions.

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	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	
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

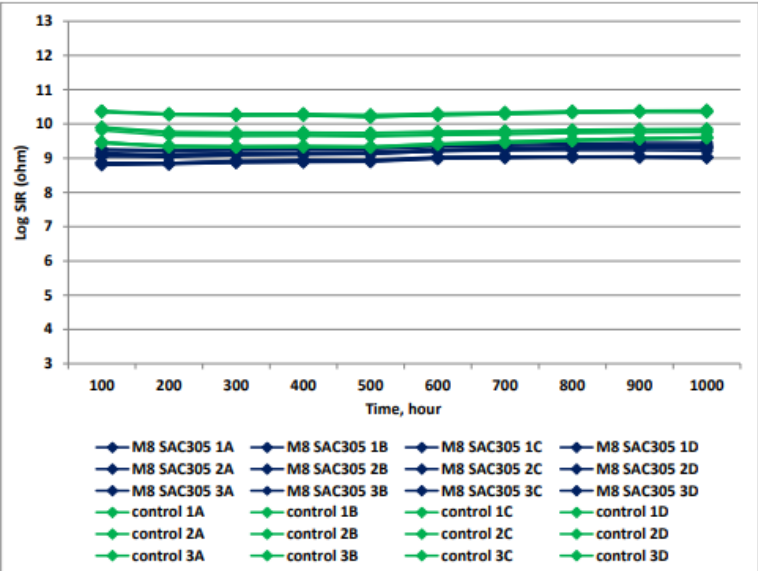
\*All information for reference only. Not to be used as incoming product specifications or for process design. Consult Certificate of Analysis for product specific information.

**DISCLAIMER** The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to <http://www.aimsolder.com/terms-conditions> to review AIM's terms and conditions.

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	 <p>15 min                      4 hrs</p>												
Tack	J-STD-005A 3.8 IPC-TM-650 2.4.44	36.1 gf Time 0 Typical	 <p><b>Tack M8 SAC305 88.5 T4</b></p> <table border="1"> <caption>Tack M8 SAC305 88.5 T4 Data</caption> <thead> <tr> <th>Time (hours)</th> <th>Tack (gf)</th> </tr> </thead> <tbody> <tr><td>0</td><td>36.1</td></tr> <tr><td>2</td><td>36.1</td></tr> <tr><td>4</td><td>36.1</td></tr> <tr><td>6</td><td>36.1</td></tr> <tr><td>8</td><td>36.1</td></tr> </tbody> </table>	Time (hours)	Tack (gf)	0	36.1	2	36.1	4	36.1	6	36.1	8	36.1
Time (hours)	Tack (gf)														
0	36.1														
2	36.1														
4	36.1														
6	36.1														
8	36.1														
Tack	JIS Z 3284	105.92 gf Typical	 <p><b>M8 SAC305</b></p> <table border="1"> <caption>M8 SAC305 Data</caption> <thead> <tr> <th>Time in Test (hours)</th> <th>Tack (gf)</th> </tr> </thead> <tbody> <tr><td>0</td><td>105.92</td></tr> <tr><td>2</td><td>105.92</td></tr> <tr><td>4</td><td>105.92</td></tr> <tr><td>6</td><td>105.92</td></tr> <tr><td>8</td><td>105.92</td></tr> </tbody> </table>	Time in Test (hours)	Tack (gf)	0	105.92	2	105.92	4	105.92	6	105.92	8	105.92
Time in Test (hours)	Tack (gf)														
0	105.92														
2	105.92														
4	105.92														
6	105.92														
8	105.92														

\*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.

**DISCLAIMER** The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to <http://www.aimsolder.com/terms-conditions> to review AIM's terms and conditions.

NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Ion Migration	MS184-01, 4.3.5	PASS	 <p>The graph displays the Log SIR (ohm) on the y-axis (ranging from 3 to 13) against Time (hour) on the x-axis (ranging from 100 to 1000). There are 16 data series: 12 M8 SAC305 samples (1A-1D, 2A-2D, 3A-3D) and 4 control samples (1A-1D, 2A-2D, 3A-3D). All series show a relatively stable Log SIR value between 9 and 11 ohms throughout the 1000-hour test period, with a slight downward trend for some samples. The control samples generally maintain higher Log SIR values (around 10-11) compared to the M8 SAC305 samples (around 9-10).</p>

\*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.

**DISCLAIMER** The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to <http://www.aimsolder.com/terms-conditions> to review AIM's terms and conditions.