TECHNICAL DATA SHEET

H10 ZERO HALOGEN NO CLEAN SOLDER PASTE

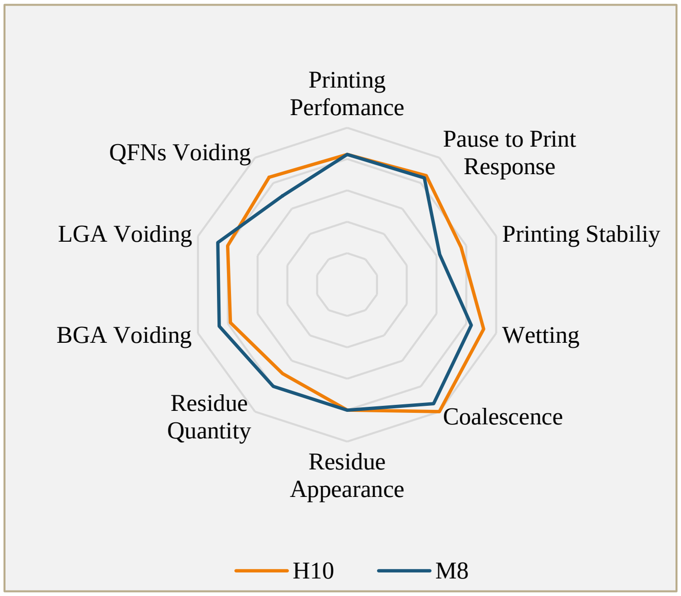
FEATURES

- Zero Halogen/Halide
- Excellent Wetting
- Low BTC and BGA Voiding
- High Reliability
- Print Capability to 0.50AR with T4
- Available in T4 and T5 Powder Sizes
- Available in SAC305, SN100C®, REL22^{TM}, and REL61^{TM}

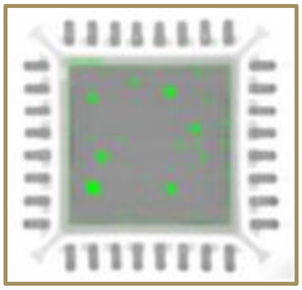
DESCRIPTION

H10 Zero Halogen No Clean Solder Paste was developed to be a high-performance paste with strong activity leaving minimal high SIR residues. H10 is capable transfer efficiency >90% on area ratios of 0.50 in T4. H10 wetting performance eliminates NWO (HiP) defects and improves pad coverage on all surface finishes. AIM H10 reduces voiding on BGA, BTC and LGA and improves electrochemical reliability on all low stand-off devices.

CHARACTERISTICS



ZERO HALOGEN HALIDE



HANDLING & STORAGE

PARAMETER	TIME	TEMPERATURE
Sealed Refrigerated Shelf Life	6 months*	0°C-12°C (32°F-55°F)
Sealed Unrefrigerated Shelf Life	3 months*	< 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 H10 Certificate of Analysis for product specific information.

CLEANING

Pre-Reflow: AIM DJAW-10 effectively removes H10 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 H10 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: H10 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 H10 residues can be effectively removed with common defluxing agents. Contact AIM for cleaning compatibility information.

REFLOW PROFILE

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

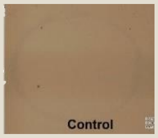
PRINTING

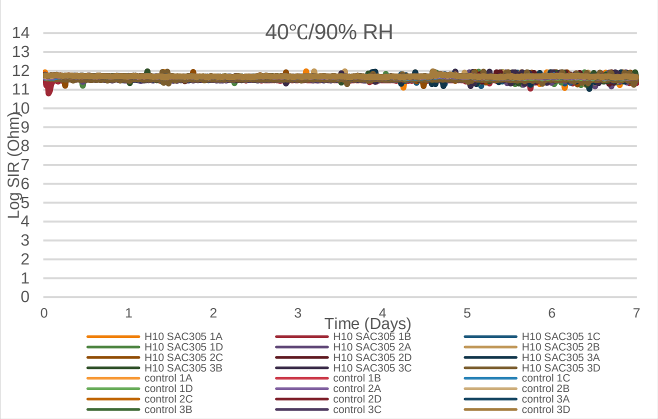
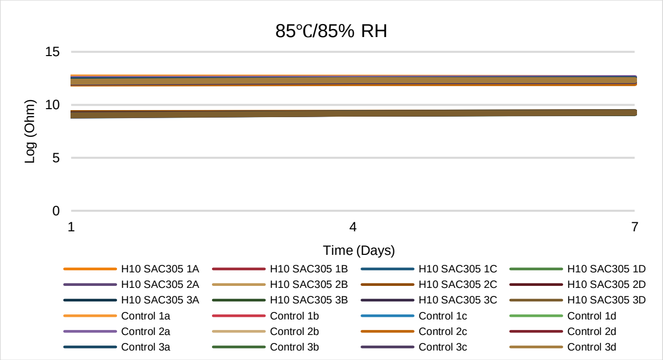
RECOMMENDED INITIAL PRINTER SETTINGS - DEPENDENT ON PCB AND PAD DESIGN	
Parameter	Recommended Initial Settings
Squeegee Pressure	0.5 – 1.0kg/25mm
Squeegee Speed	13 – 152 mm/second
Snap-off Distance	On Contact 0.00 mm
PCB Separation Distance	0.75 - 2.0 mm
PCB Separation Speed	3 - 20 mm/second

TEST DATA SUMMARY

Note: All test data is for T4 SAC305 formulation.

NAME	TEST METHOD	RESULTS
IPC Flux Classification	J-STD-004 B and C	ROL0

NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Copper Mirror	J-STD-004 Current Rev 3.3.1.1 IPC-TM-650 2.3.32 JIS Z 3197:2012 8.4.2	No breakthrough Low Activity	 
Corrosion	J-STD-004 Current Rev 3.3.1.2 IPC-TM-650 2.6.15 JIS Z 3197:2012 8.4.1	No Corrosion Low	
Quantitative Halides	J-STD-004 Current Rev 3.3.1.3 IPC-TM-650 2.3.28.1	<0.05% Low	Cl^- = 0ppm | Br^- = 0ppm | F^- = 0ppm | I^- = 0ppm
Qualitative Halides, Silver Chromate	J-STD-004 Current Rev 3.4.1.1 IPC-TM-650 2.3.33 JIS Z 3197:2012 8.1.4.2.4	PASS	
Qualitative Halides, Fluoride Spot	J-STD-004 Current Rev 3.4.1.2 IPC-TM-650 2.3.35.1	PASS	
Halogen Content	J-STD-004 Current Rev 3.4.4 IPC-TM-650 2.3.28.1 EN 14582	PASS	Halogen Free

NAME	TEST METHOD	TYPICAL RESULTS	IMAGE
Surface Insulation Resistance	J-STD-004 Current Rev 3.3.1.4 IPC-TM-650 2.6.3.7	No-clean state ≥ 100 MΩ Low	
Surface Insulation Resistance	J-STD-004 Current Rev 3.2.4.5 IPC-TM-650 2.6.3.3b	PASS	
Resistance to Electromigration	BELLCORE GR-78-CORE Issue 2 2007 13.2.7	PASS	
Flux Solids, Nonvolatile Determination	J-STD-004 Current Rev 3.3.2.1 IPC-TM-650 2.3.34	74% Solids Content	
Acid Value	J-STD-004 Current Rev. TM-650 2.3.13	174.2 mg KOH/g	
Viscosity (Malcom)	J-STD-005 Current Rev A 3.5.1 IPC-TM-650 2.4.34	150-250 Pas Typical (SAC305 T4)	
Visual	J-STD-004 Current Rev 3.3.2.5	PASS	
Slump	J-STD-005 Current Rev A 3.6 IPC-TM-650 2.4.35	PASS	

Tack Value	JIS Z 3284 2.4.44 IPC-TM-650