锡膏/焊料/助焊剂

W20 水溶性锡膏

AIM 的 W20 水溶性焊锡膏是一种零卤化物/卤素助焊剂配方。W20 专为增强所有可焊电子表面的润湿性能而开发。

- 符合RoHS标准
- 可用去离子水清洗
- 低起泡
- J-STD-004/B 分类零卤素/卤化物
- 钢网上寿命可达8小时以上
- 延长2周以上的清洗窗口时间

标准尺寸为T4粉末网眼

NC 膏状助焊剂

NC 膏状助焊剂是一款免洗，黏附和返修助焊剂，可用于电路板常规焊接或返修，BGA返工和植球。

- 无卤素/无卤化物
- 低空洞
- 工艺窗口宽
- 与有铅和无铅产品兼容
- 适用于BGA返工和植球
- 符合IPC7711-7721标准

Mini LED 用焊料

AIM致力于为LED、MiniLED、大功率LED和MicroLED行业提供高品质的焊料合金，为LED应用，如汽车、商业照明和显示技术等提供各种解决方案。

AIM LUX

AIM的LUX系列产品
合金、无银和无空洞锡膏

可与T6合金粉末相结合，旨在改进现有LED技术并满足未来的需求。

REL22™ 高可靠性无铅合金焊材

- 超常的耐用性，适用于极端恶劣的环境
- 可靠性窗口同等于锡/银/铋/锑/镍/铜，具有宽广的工艺窗口
- 消除锡须形成
- 蠕变率低于SAC合金
- 高可靠性/高强度
- 更好的热循环性能
- 润湿性比低银/无银合金更好
- 仅用于无铅应用

可提供的形式：
焊条、焊线、焊膏
可提供的合金类型：
T4-T6

REL61™ 无铅合金焊材

- 减少锡须形成
- 可靠性比SAC合金更好
- 低成本SAC合金
- 更好的热循环性能
- 润湿性比低银/无银合金更好
- 仅用于无铅应用

可提供的形式：
焊条、焊线、焊膏
可提供的合金类型：
T4-T5

NC259 无铅免洗锡膏

- 减少空洞
- 减少窝枕缺陷
- 长间隔印刷性能
- 精确的细孔印刷
- 无银/低银合金良好润湿
- 非常低的残留
- 印刷速度6"/Sec(150mm/Sec)

NC259设计与无银/低银合金结合使用，其性能可与高银合金相媲美。NC259间隔印刷时间>8小时，传输效率高，细孔印刷精确。

可提供的合金类型：
T6-T7

SN100C® 无铅合金焊材

典型熔化温度	典型合金成分
227℃(441℉)共晶	Sn: Balance Cu: 0.7 Ni: 0.05 Ge: 0.009

合金密度

7.4g/cm³(Archimedes method)

- 液相线227℃(441℉)
- 焊点光滑、亮泽
- 焊点无桥搭现象
- 成本低-不含银
- 减慢孔、垫和槽的铜腐蚀率
- 锡渣率与锡铅合金相似
- 符合IPC J-STD-006标准

可提供的形式：
可制成三角形焊条，每块1.1公斤(2.5磅)，3公斤的AIM安全栏和实芯线，也有AIM助焊剂内芯焊丝和焊膏类型。
可提供的合金类型：T4-T7

铭 奋 FAIRFIELD
代理商：上海铭奋电子科技有限公司
网址：www.fairfield.com.cn
销售热线：021-5448 0018 4001002590 13764173938

RMA201 PASTE FLUX

FEATURES

- High Humidity Resistance
- Large Process Window
- Excellent Wetting
- Aqueous Clean With Saponifier

DESCRIPTION

RMA201 Paste Flux is a mildly activated, pure gum rosin formulation that is QQS571-E, QPL approved. RMA201 has a wide process window and is designed to allow reflow at higher than normal temperatures, which allows it to accommodate a variety of environments and process applications. RMA 201 performs well in continuous production, offering good slump resistance, high tack, and low post-process residues. Post-process residues have undergone testing to insure high insulation resistance, and may be left on the PCB without degradation.

FLUX APPLICATION

When being used for rework, application should be limited to the area being worked. Application via dispense needle, brush or a cotton swab is recommended.

HANDLING & STORAGE

- RMA201 Paste Flux has a refrigerated shelf life of 1 year at 4°C (40°F) to 12°C (55°C), and 6 months at room temperature.
- Keep paste flux away from sunlight as it may degrade the product.

PACKAGING

RMA201 Paste Flux comes standard in syringes, jars, and cartridges.

CLEANING

RMA201 Paste Flux can be cleaned, if necessary, with saponified tap water. AIMTERGE-520 is recommended. Deionized water is recommended for the final rinse. A temperature of 100° - 150°F is sufficient for removing any residues. An in-line or other pressurized spray cleaning system is suggested, but is not required.

SAFETY

Use with adequate ventilation and proper personal protective equipment. Refer to the accompanying Material Safety Data Sheet for any specific emergency information. Do not dispose of any hazardous materials in non-approved containers.

WWW.AIMSOLDER.COM INFO@AIMSOLDER.COM
USA +1 401-463-5605 CANADA +1 514-494-2000 MEXICO +52 656-630-0032 ASIA +86 755-2993-6487 EUROPE +48 42-663-60-04

Solder plus Support

W20 WATER SOLUBLE SOLDER PASTE

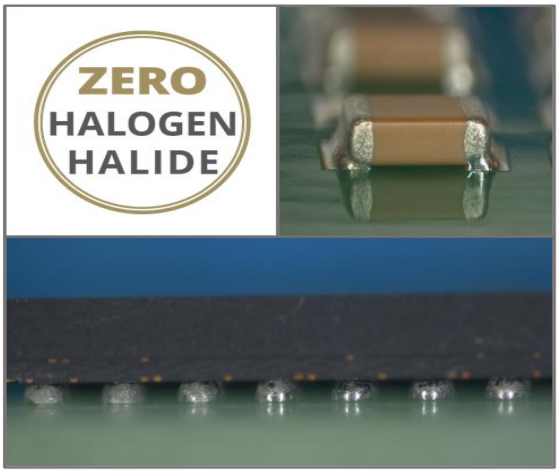
FEATURES

- 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

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)

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

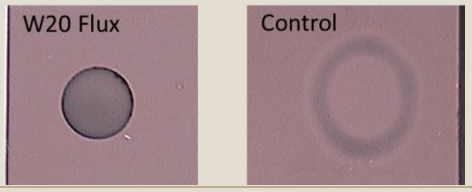
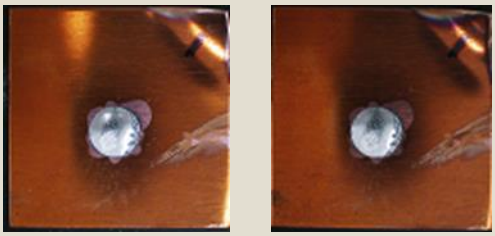
REFLOW PROFILE

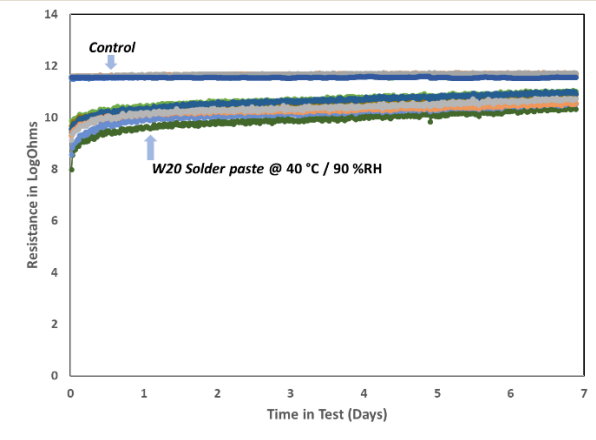
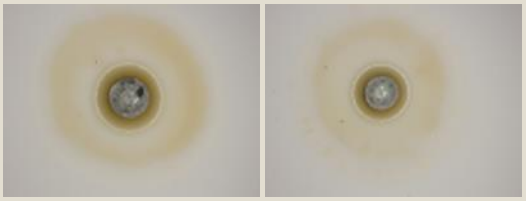
Detailed profile information may be found at http://www.aimsolder.com/reflow-profile-supplements. Contact AIM for additional information.

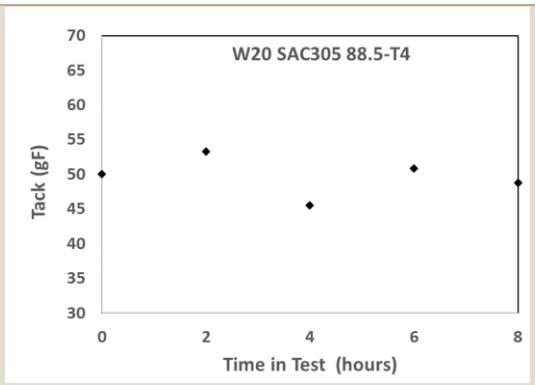
PRINTING

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

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	Before After 
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

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

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.

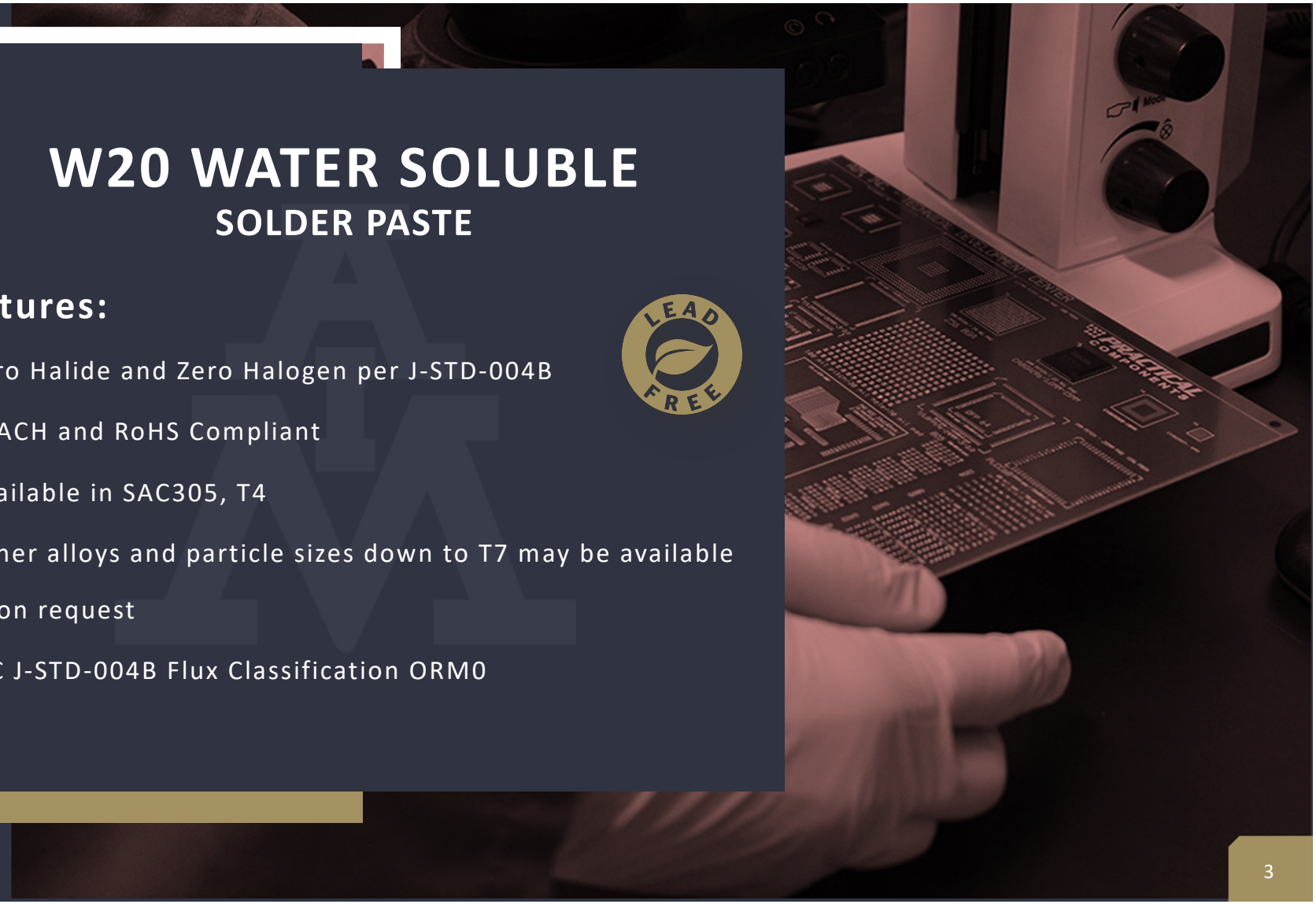

AIM Global Solder Solutions
YOUR PARTNER IN
SOLDER MATERIALS
W20 WATER SOLUBLE SOLDER PASTE
2024

W20 INTRODUCTION

W20 WATER SOLUBLE
SOLDER PASTE

Features:

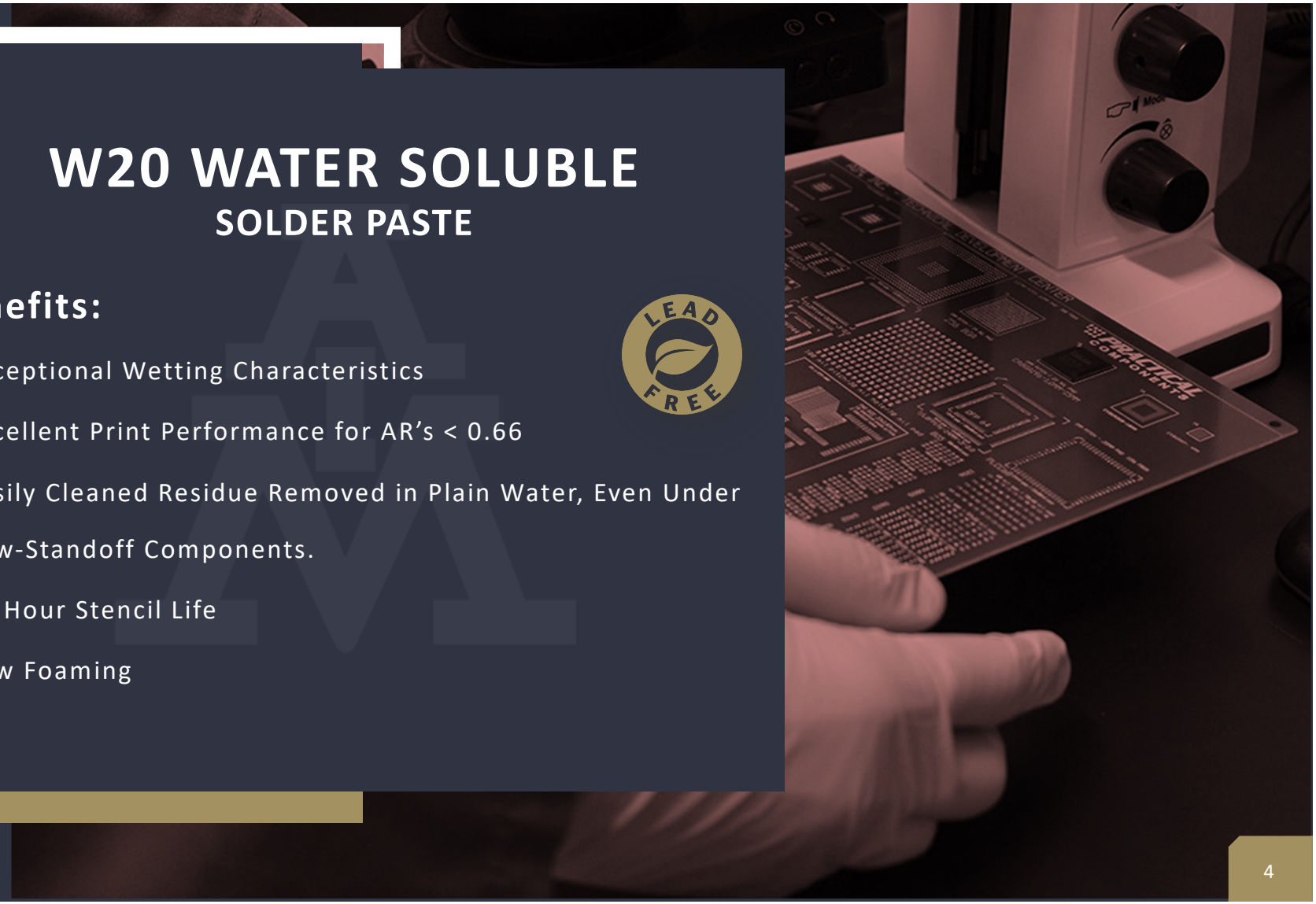
- Zero Halide and Zero Halogen per J-STD-004B
- REACH and RoHS Compliant
- Available in SAC305, T4
- Other alloys and particle sizes down to T7 may be available upon request
- IPC J-STD-004B Flux Classification ORM0



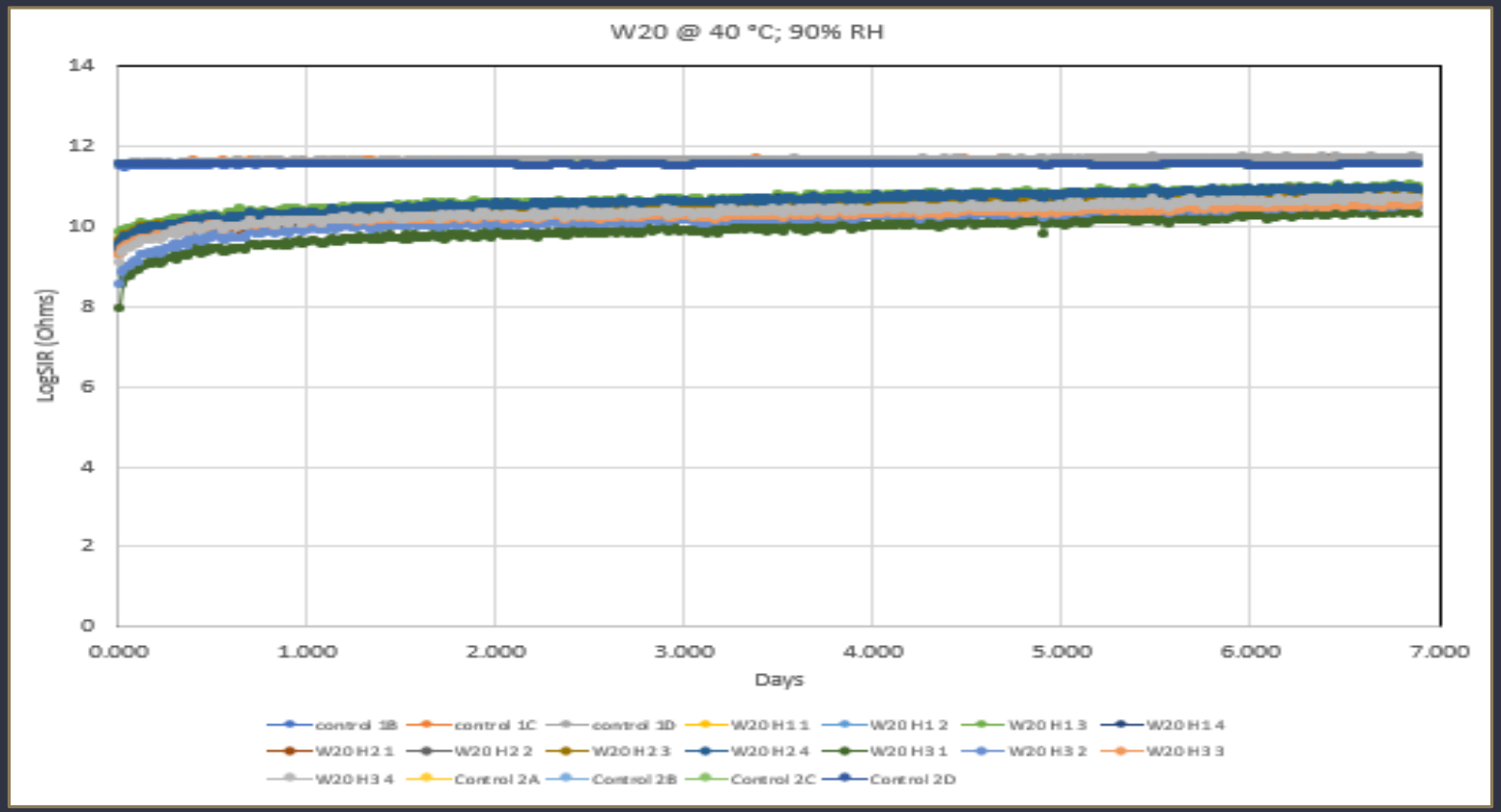
W20 WATER SOLUBLE
SOLDER PASTE

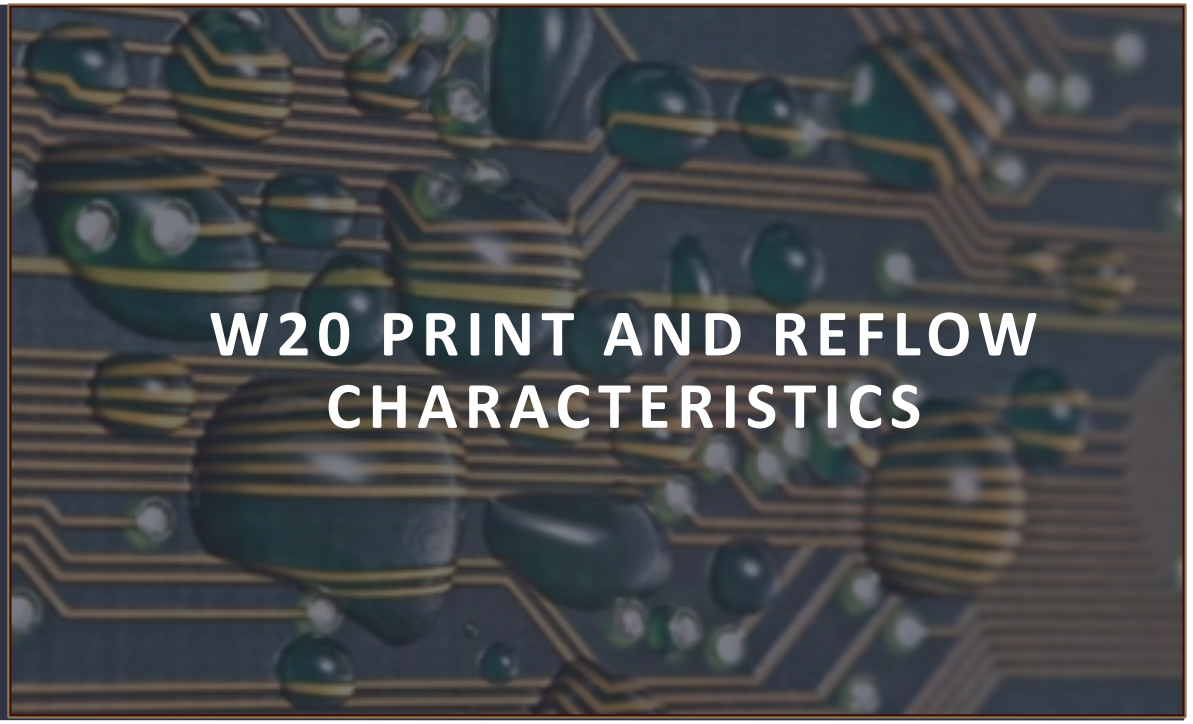
Benefits:

- Exceptional Wetting Characteristics
- Excellent Print Performance for AR's < 0.66
- Easily Cleaned Residue Removed in Plain Water, Even Under Low-Standoff Components.
- 8+ Hour Stencil Life
- Low Foaming



SURFACE INSULATION RESISTANCE AFTER CLEANING IPC J-STD-004B



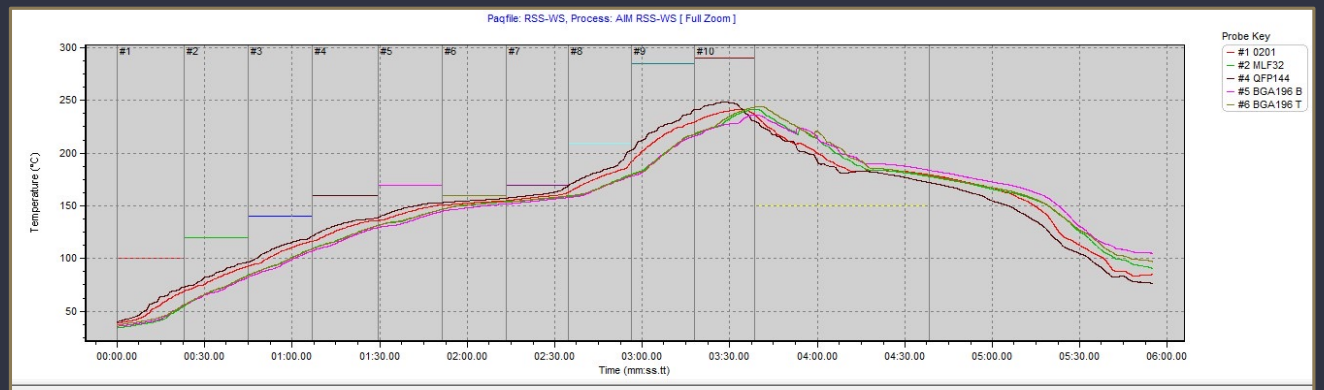


W20 PRINT AND REFLOW CHARACTERISTICS

W20 SETUP ON PRINTER

W20 SAC305 HAS GREY COLOR AND CREAMY CONSISTENCY

W20 OPTIMAL REFLOW PROFILE RSS-WS

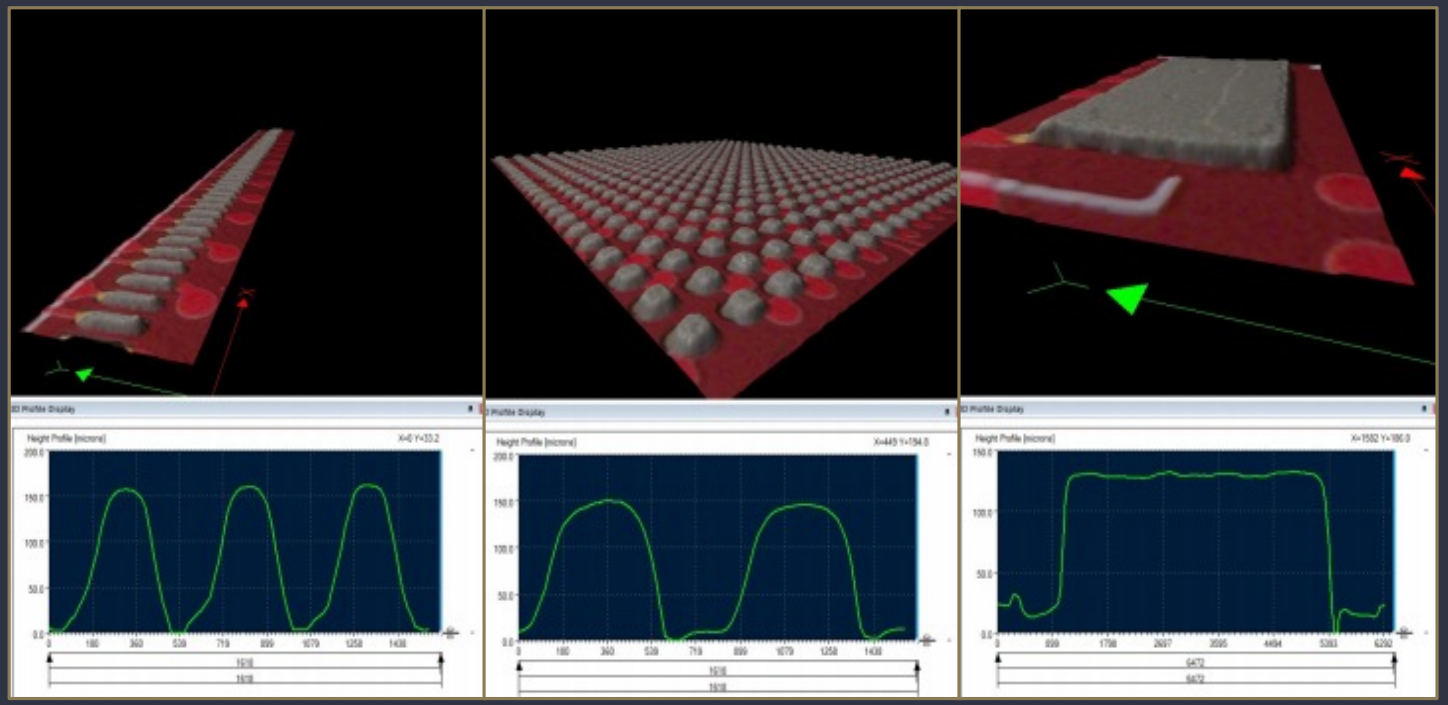


Reflow Results

Probe	Positive Slope (°C/sec)	Positive Slope Time (mm:ss.tt)	Rise Time (150.0 - 175.0°C) (mm:ss.tt)	Rise Time 40.0°C to Peak (mm:ss.tt)	Mean Slope to Peak (°C/sec)	Time Above Liquidus (217.0°C) (mm:ss.tt)	Peak Temperature (°C)	Time Above Peak minus 5.0°C (mm:ss.tt)	Delta T (°C)	Negative Slope (°C/sec)
#1 (°C) 0201	2.65	02:58.50	00:54.60	03:30.80	0.85	00:39.90	241.6	00:14.30		-3.26
#2 (°C) MLF32	2.18	03:04.85	00:54.00	03:25.20	0.85	00:40.30	241.9	00:09.70		-2.36
#3 (°C) MLF48										
#4 (°C) QFP144	2.86	02:55.05	00:56.65	03:27.60	0.86	00:44.10	248.5	00:12.85	12.0	-2.66
#5 (°C) BGA196 B	2.28	03:03.35	00:47.25	03:27.95	0.84	00:40.85	236.5	00:08.70		-2.67
#6 (°C) BGA196 T	2.33	03:05.70	00:56.25	03:32.65	0.85	00:44.65	244.3	00:11.35		-2.19

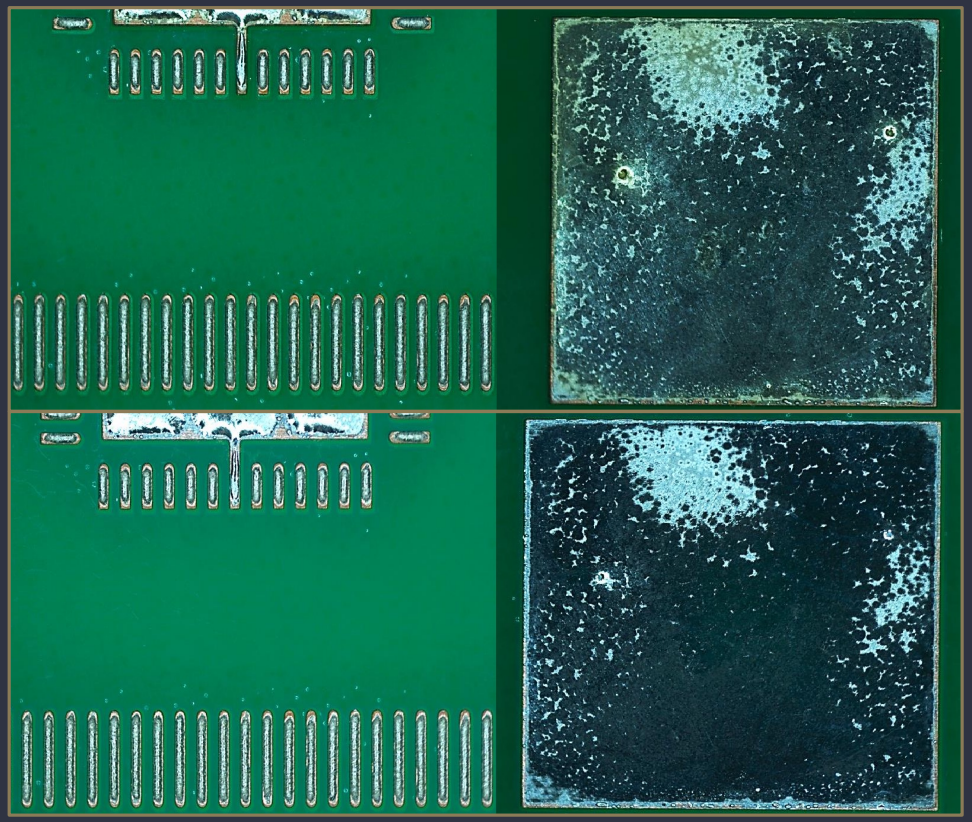
- 3.5 MIN OF LENGTH FROM 40˚C TO THE PEAK
- @ 240 ˚C PEAK TEMPERATURE
- @ 40 SEC TAL
- @ 60 SEC SOAK TIME BETWEEN 150-175 ˚C
- POSITIVE SLOPE @ 2.0 ˚C/SEC

W20 PRINT CHARACTERISTICS



SPI data shows good print definition with W20 SAC305

W20 POST REFLOW APPEARANCE

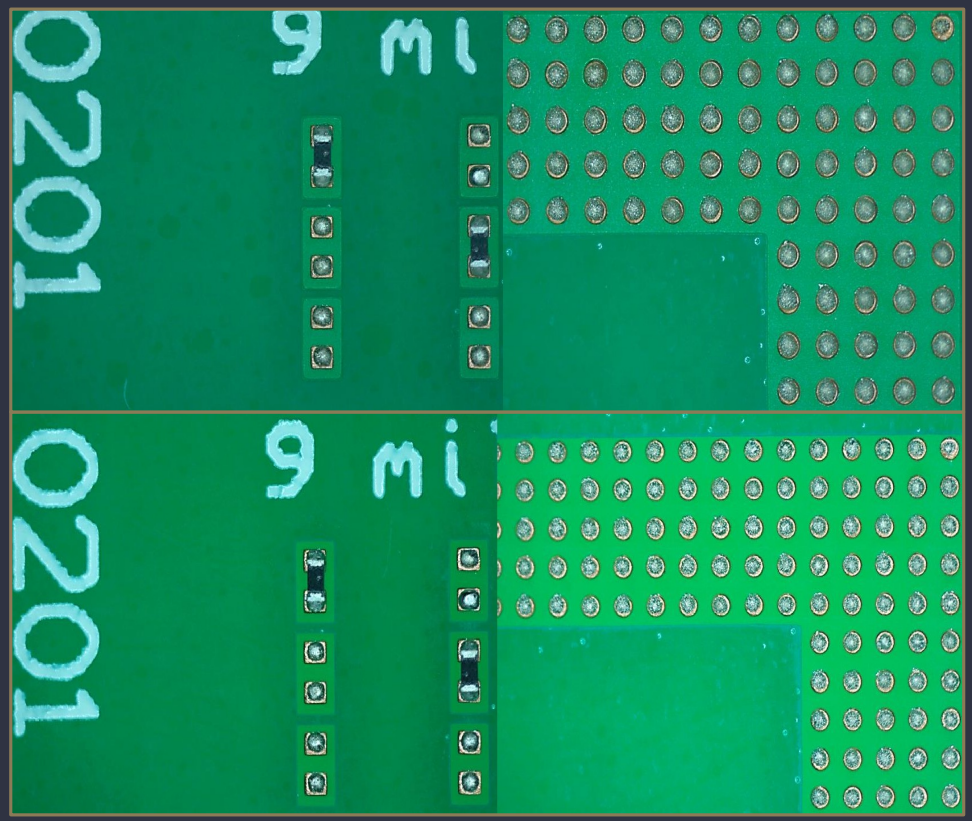


Pre-wash

Post-wash

W20 POST REFLOW APPEARANCE

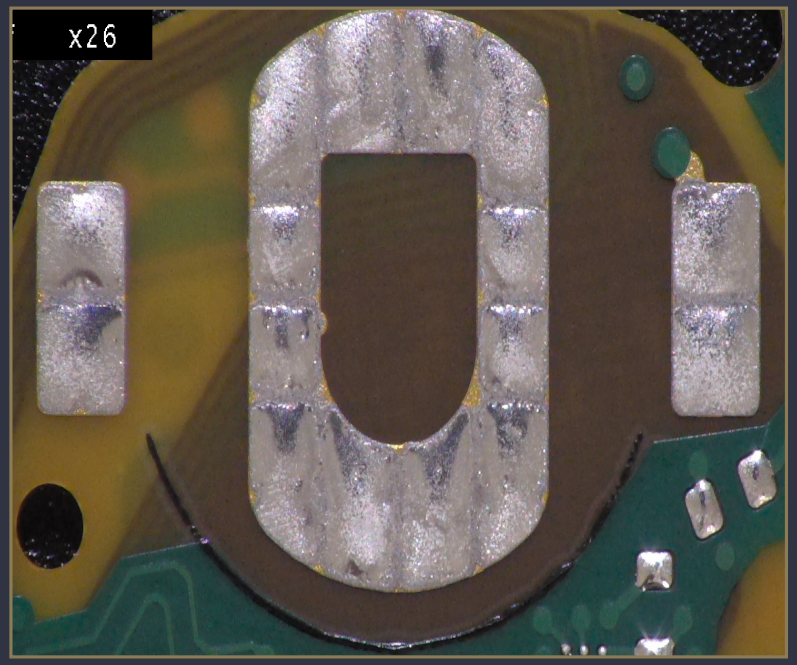
W20 shows good coalesce on 0201 components

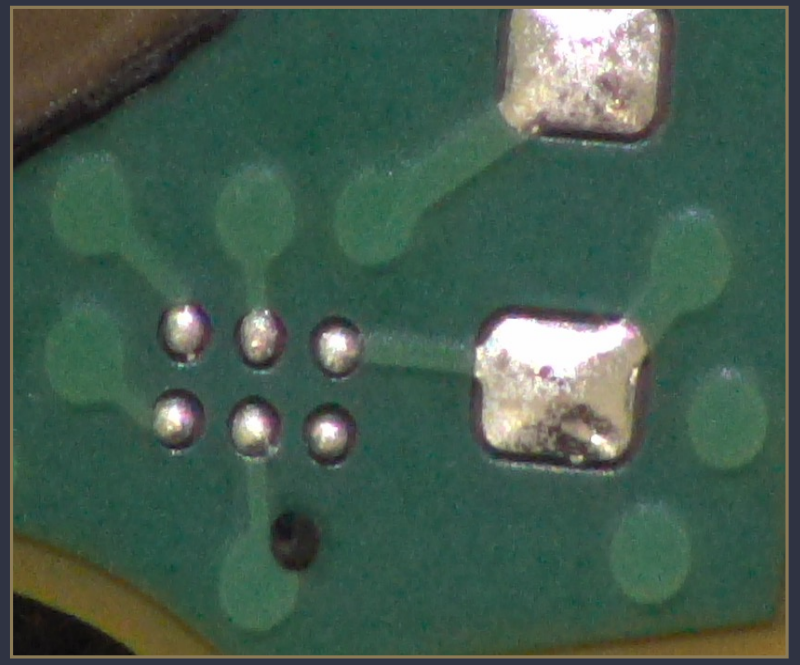


Pre-wash

Post-wash

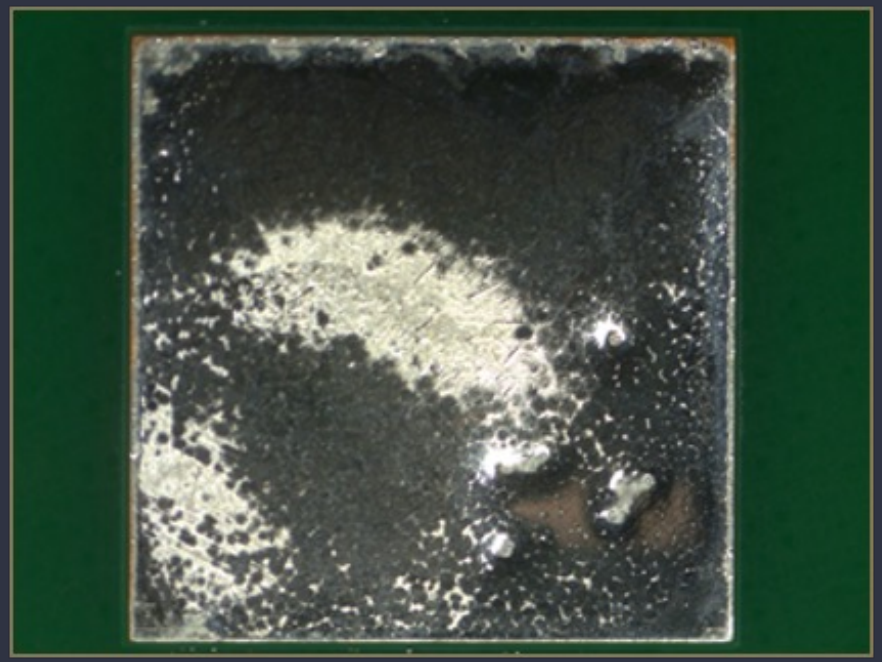
W20 POST REFLOW

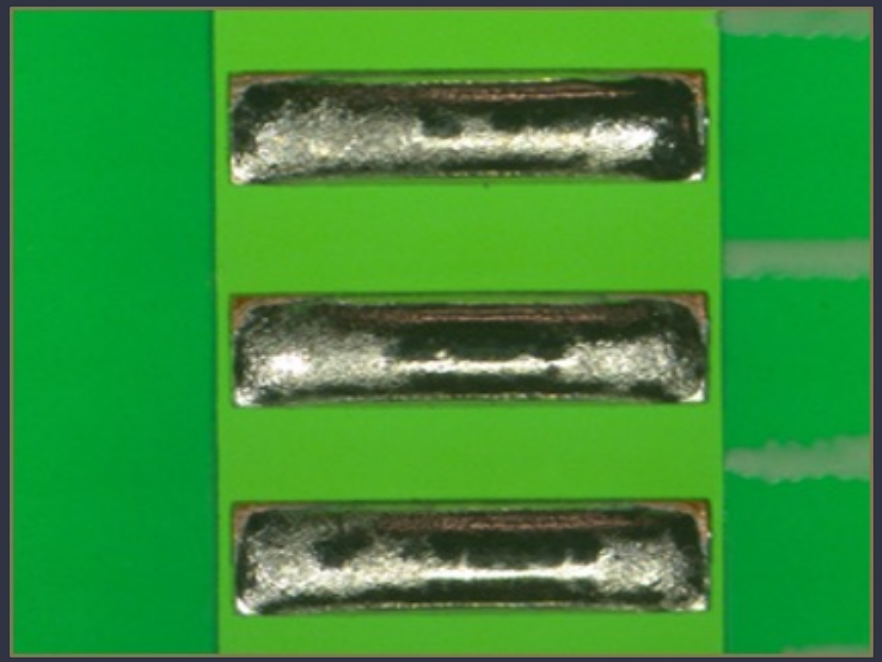




W20 displays well wetted, shiny joints after cleaning.

W20 EXTENDED CLEANING WINDOW

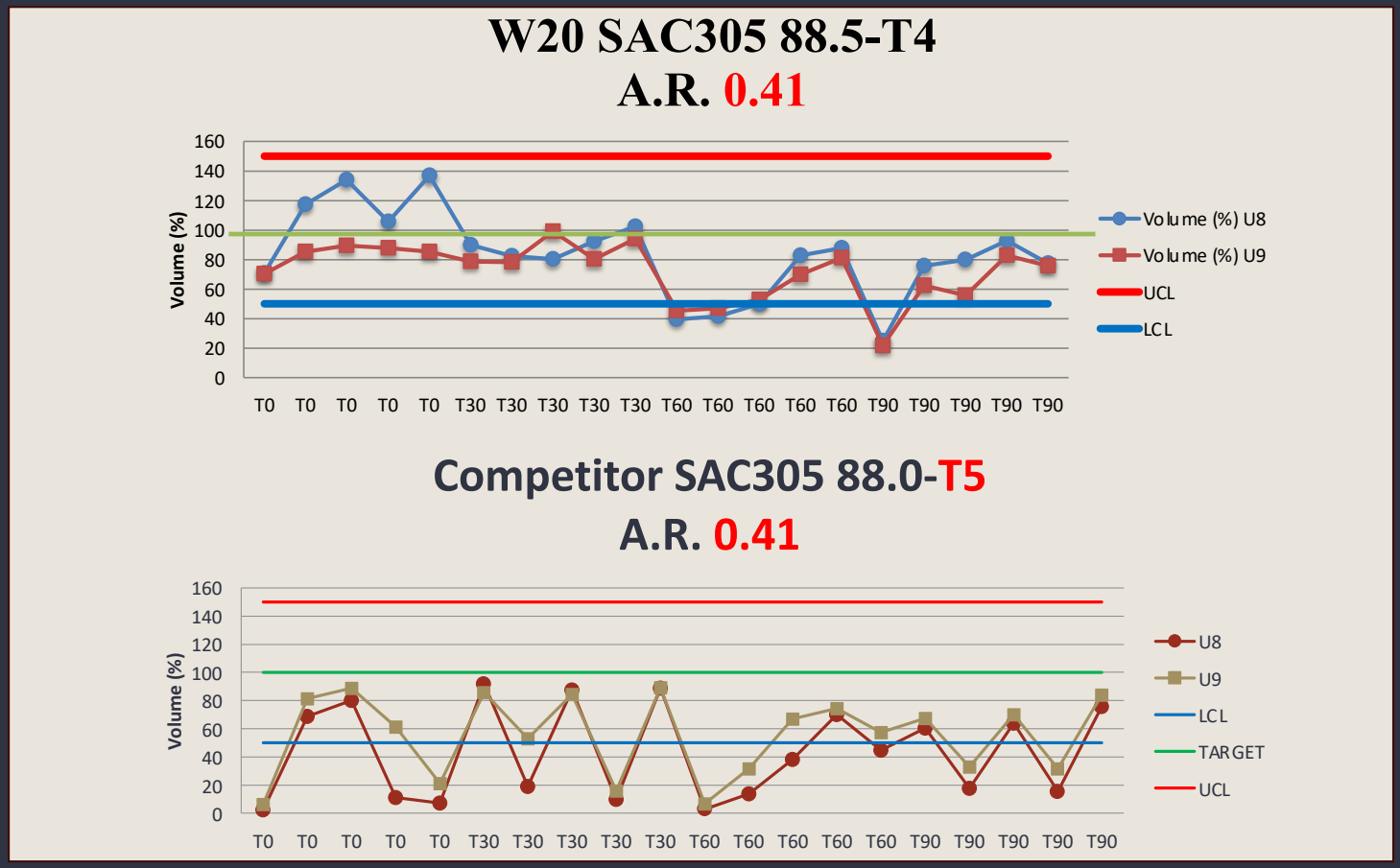




Post reflow residues were easily cleaned after more than 2 weeks on the PCB

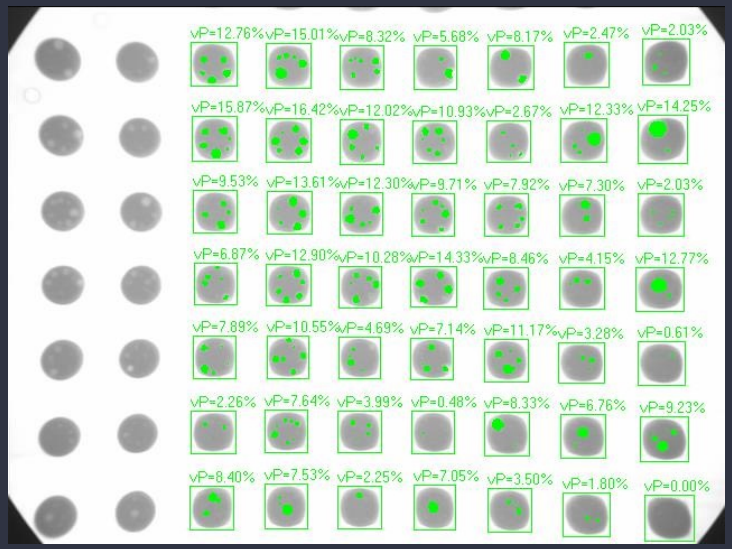
W20 VS. COMPETITION

W20 T4 VS COMPETITOR T5
SMALL AR PRINT COMPARISON



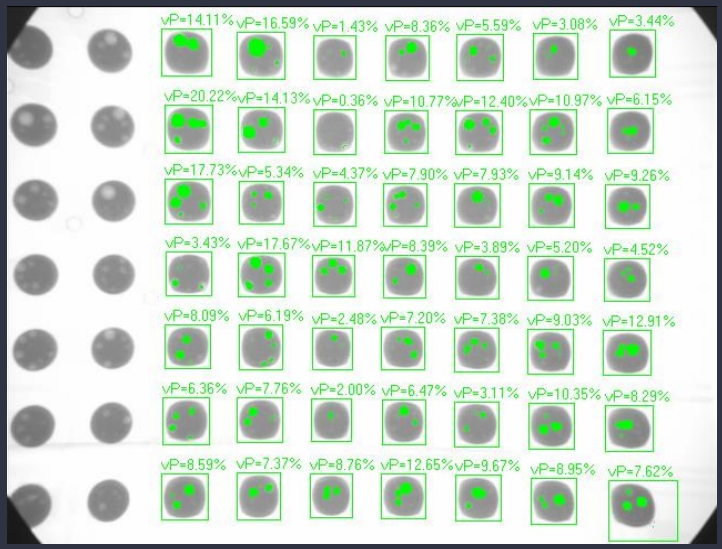
VOID COMPARISON - BGA

AIM W20 Paste



- Voiding Average 3.38%
- Max Void 13.99%

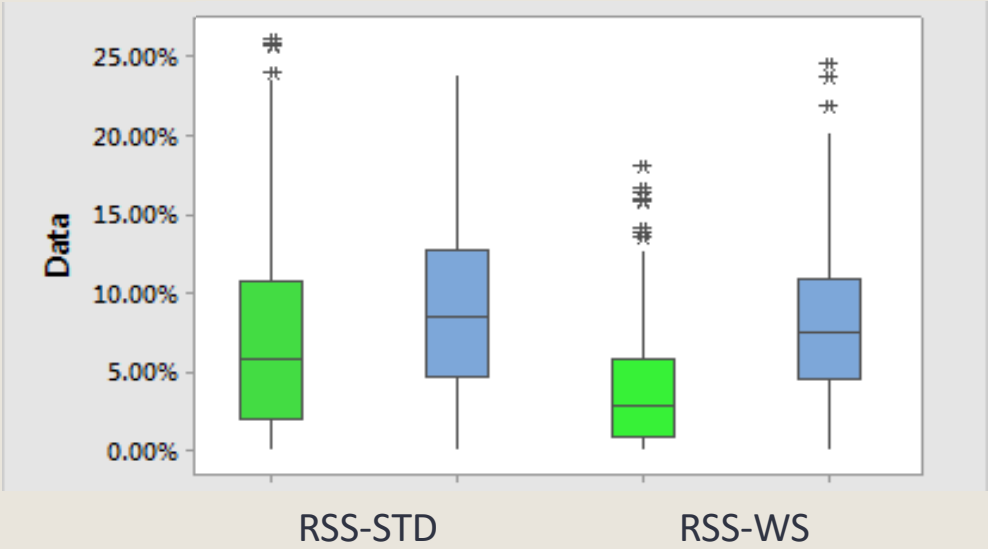
Competitor WS Paste



- Voiding Average 8.04%
- Max Void 20.08%

VOID COMPARISON - BGA

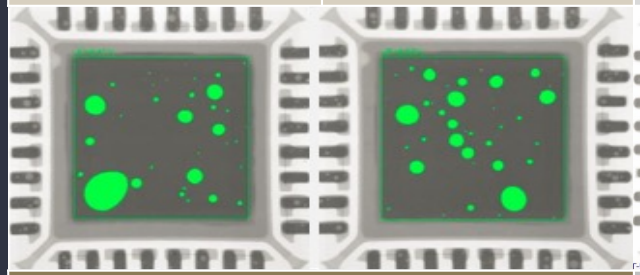
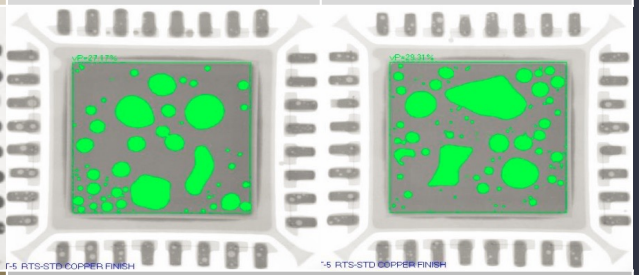
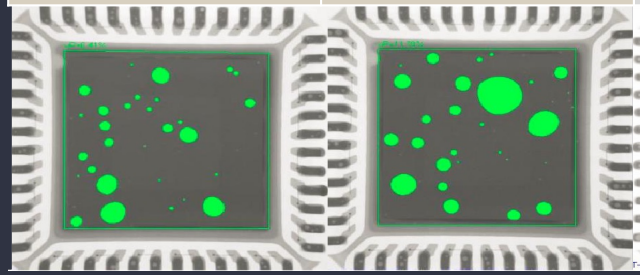
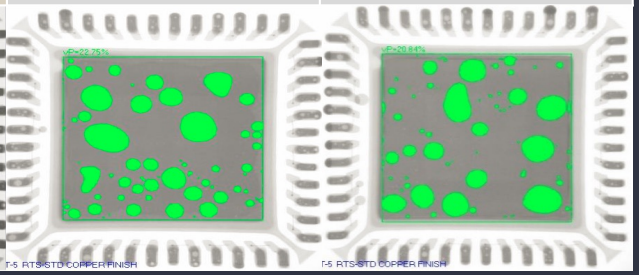
Boxplot of Voids BGA196 - W20 vs Competitor



AIM W20 SAC305

Competitor SAC305

VOID COMPARISON - QFN

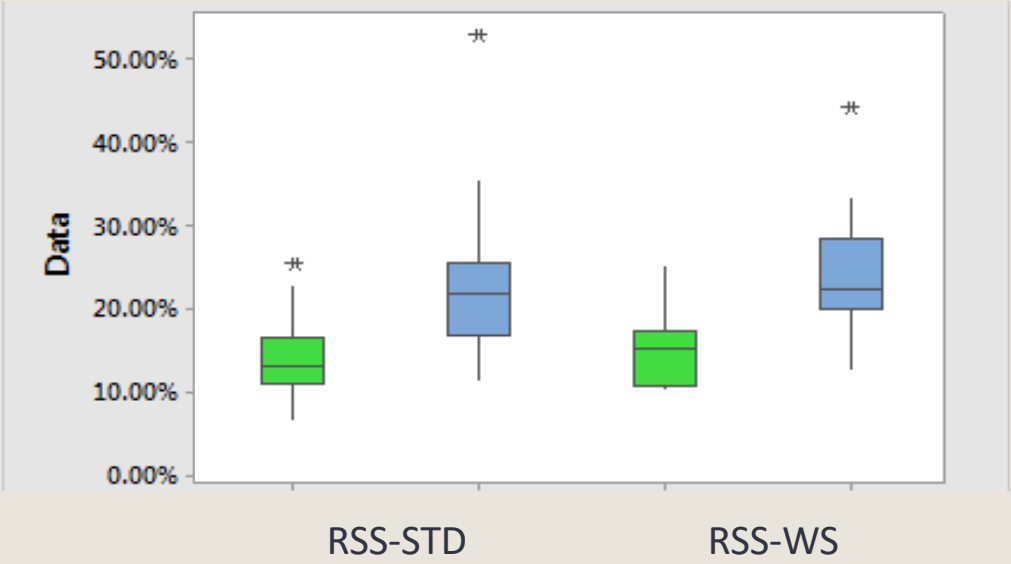
QFN 32		QFN 32	
Void Percentage 9.41%	Void Percentage 8.03%	Void Percentage 27.17%	Void Percentage 29.31%
			
QFN 48		**QFN 48**	
Void Percentage 6.41%	Void Percentage 11.70%	Void Percentage 22.75%	Void Percentage 20.84%
			

AIM W20 Paste

Competitor WS Paste

W20 VOID COMPARISON - QFN

Boxplot of Voids QFN's - W20 vs Competitor



AIM W20 SAC305

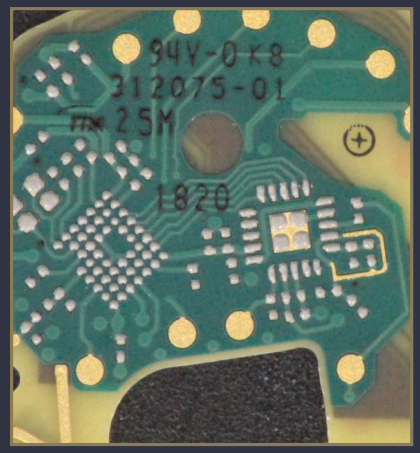
Competitor SAC305

W20 CASE STUDIES

W20 CASE STUDY: PRINT EVALUATION

Problem: Customer reported printing issue on double-sided component.

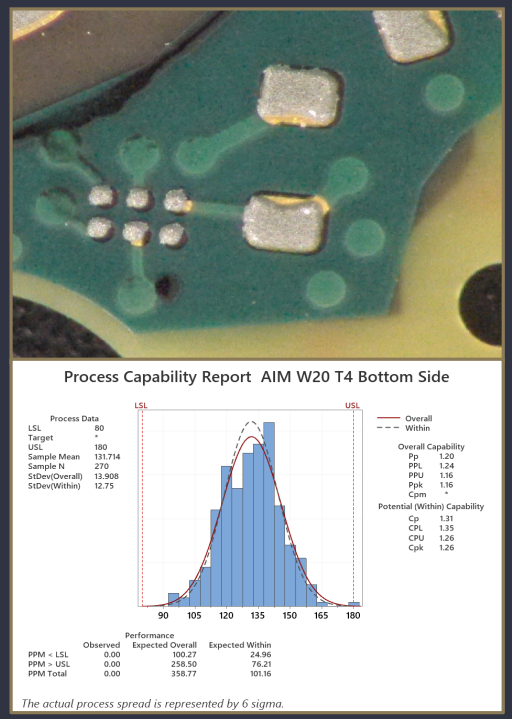
Solution: AIM W20 was compared against top competitor product to determine which provided best printing results.



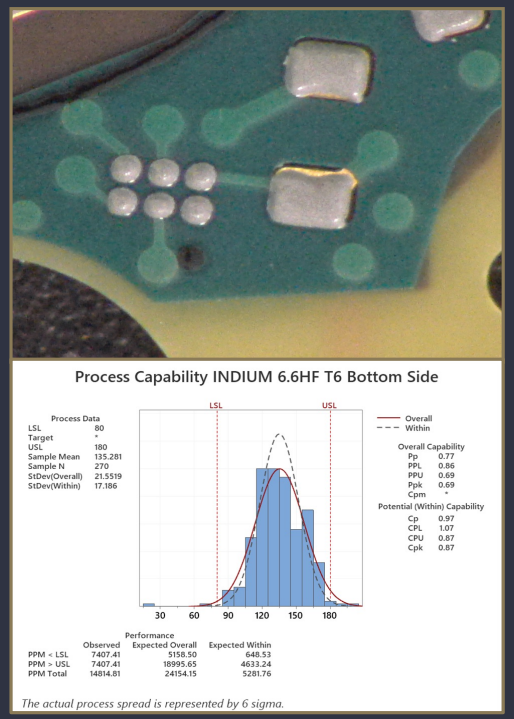
Critical components, top and bottom sides

W20 CASE STUDY: PRINT EVALUATION

Result: On trouble component, AIM W20 produced higher Cpk and better print definition than competitor



AIM W20 Paste



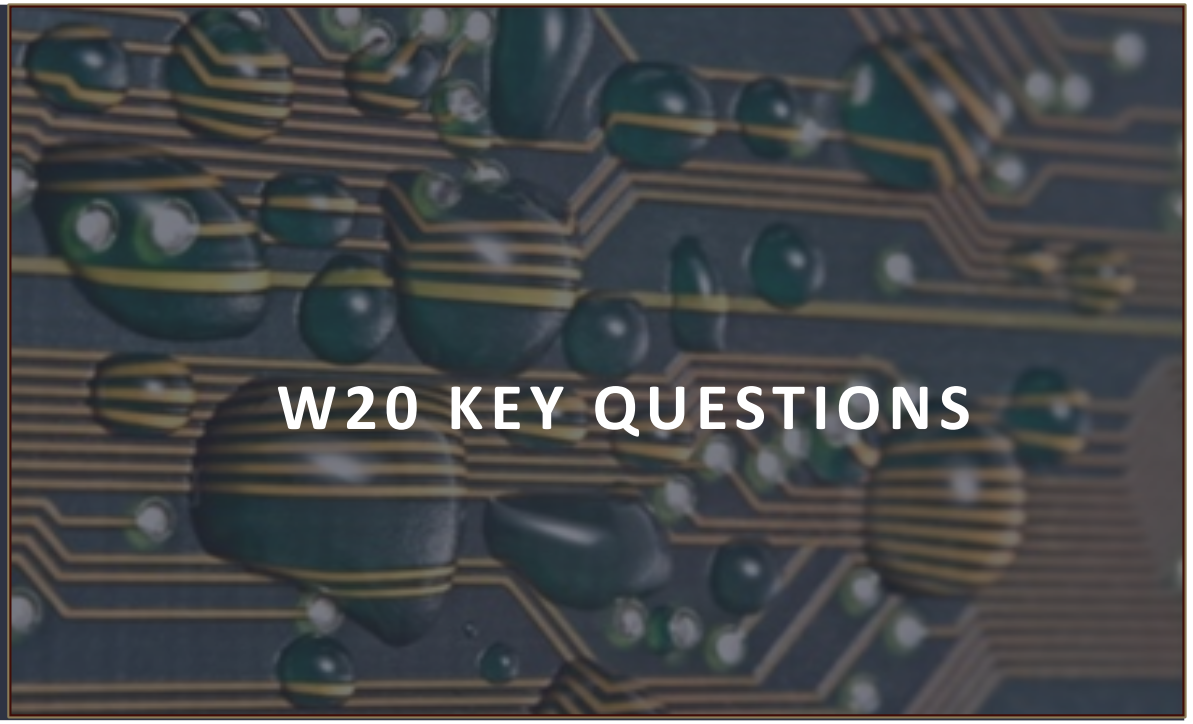
Competitor WS Paste

W20 CASE STUDIES

In other evaluations, W20 showed:

- Improved wetting
- Reduced graping
- Reduced voiding
- Better printability

when compared to incumbent product.



W20 KEY QUESTIONS

W20 KEY QUESTIONS

- **Does your process require a zero halogen product?**
  - *W20 is zero halogen and zero halide.*
- **Are you currently washing? Batch or in-line?**
  - *W20 is compatible with all automated wash processes.*
- **Is foaming an issue?**
  - *W20 is engineered to minimize foaming during the wash process.*
- **Are white residue/incomplete residue removal an issue?**
  - *W20 reduces white residue and washes completely.*
- **Do you want longer DI filtration media life?**
  - *W20 can extend media life and reduce costs.*


THANK YOU
aimsolder.com
Rev 0624NF