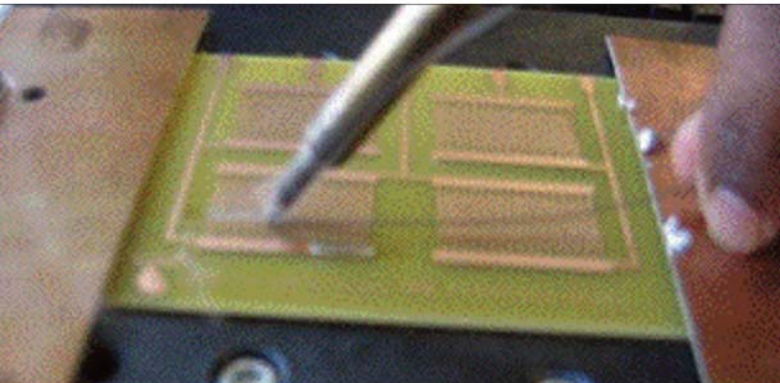


the product:

A World Class Pb free,
No Clean Cored Solder
Wire offering:



Low Spattering



Fast Wetting

ALPHA[®] Telecore XL-806

Low Spatter Cored Solder Wire

Product Guide



Cookson Electronics

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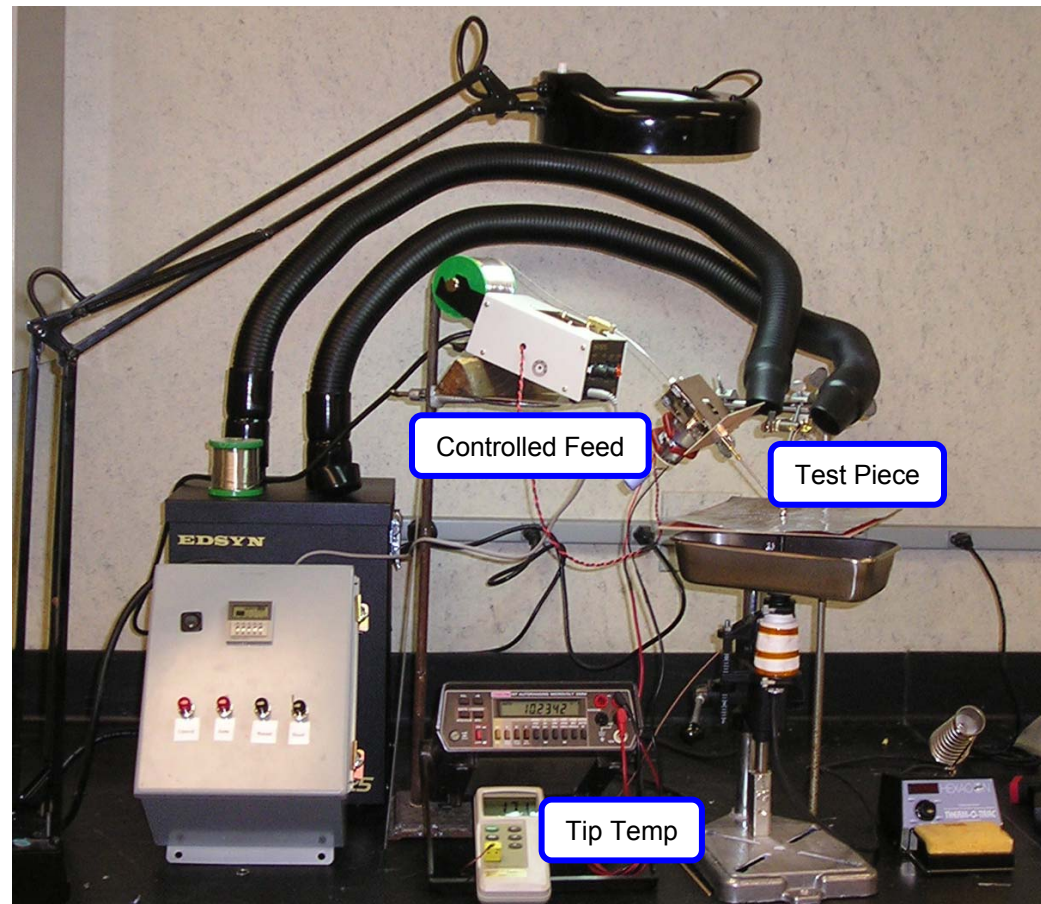
Telecore XL-806 Cored Solder Wire

Spattering Performance

Spattering Performance – Test Method

Specially developed in house testing technique:

- Based on JIS Z 3197 Test Method 8.3.2.1
- Improved feed control reduces variability
- Increased load capacity iron to maintain constant tip temp
- Controlled and Repeatable



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Telecore XL-806 Cored Solder Wire

Spattering Performance

Spattering Performance – Test Results

Test parameters:

Tip Temperature : 375°C & 320°C

Cored Wire : 3.0% flux, 0.80mm diameter, SAC305

Cored Wire	Spatter %	
	At 375°C	At 320°C
Telecore XL-806	2	3
Leading Competitor A	3	4
Leading Competitor B	2	6
Leading Competitor C	10	6



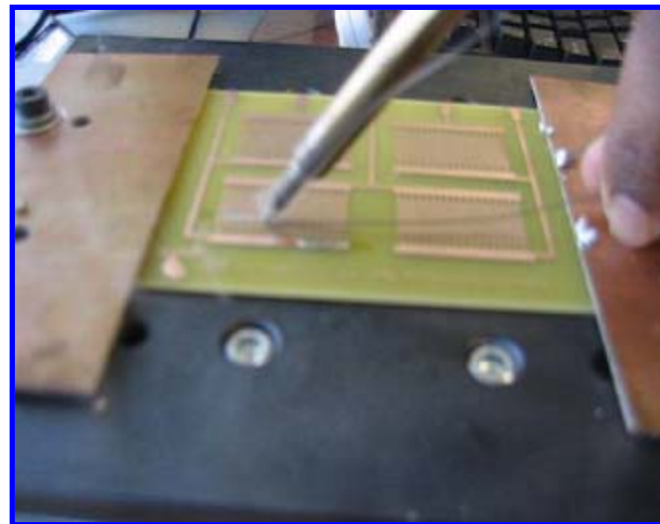
Telecore XL-806 shows the lowest spatter compared to other leading cored wire formulations

Telecore XL-806 Cored Solder Wire

Wetting Performance

Drag Soldering Performance – Test Method

A technique was developed to test the speed and efficiency of wetting to simulate Manual and Drag Soldering applications



Test parameters:

Tip temp 375 C

Drag speed 1"/sec & 1.5"/sec

Board traces (0.5mm width, 0.4 mm spacing)

Repeated 8 times and number of bridges and skips assessed

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Telecore XL-806 Cored Solder Wire

Wetting Performance

Drag Soldering Performance – Test Results

The average number of bridges and skips are shown

Cored Wire	Average Defect Count	
	At 25mm/s	At 38mm/s
Telecore XL-806	3	3
Leading Competitor A	9	10
Leading Competitor B	13	32
Leading Competitor C	9	8

Telecore XL-806 produced a lower number of defects compared to other leading cored wire formulations

Telecore XL-806 Cored Solder Wire

Low Spatter & Drag Soldering Performance – Additional Testing

Spattering Performance

Wetting Performance

- We recruited 2 Hand Soldering Operators, both with several years experience
 - They tested Telecore XL-806 and compared it to 16 different cored wires, including competitor materials
 - Telecore XL-806 performed best in terms of low spatter and excellent wetting

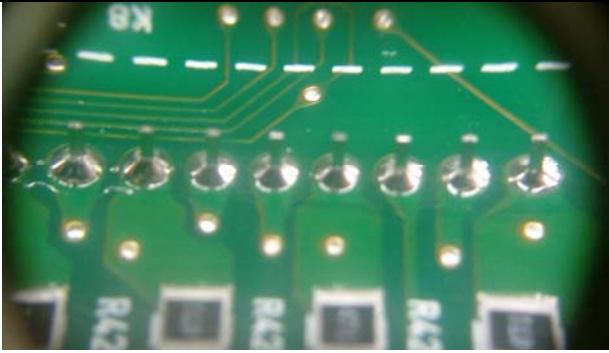
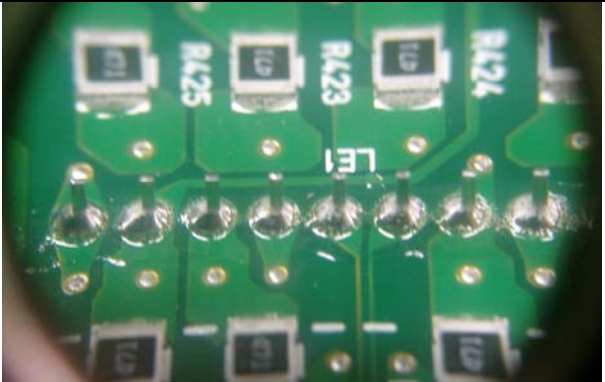
Spatter



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Telecore XL-806 Cored Solder Wire

Customer Feedback – Drag Soldering Process

	Alpha Telecore XL-806	Competitor Material	Customers Comments
Drag soldering			<p>Comparing solder processes, I found Telecore XL-806 wetting speed is better than current material and operator feedback is that it is easy to solder. And we save about 1-2 sec per board.</p> <p>Comparing result, Telecore XL-806 solder joint is shiny and less residue.</p>

Reliability Data

Test Results –

- Meets J-STD-004 Classification : ROM1 (for Halide Content)
- Passes all Reliability Testing for ROL1
 - i.e., it passes Copper Mirror, Copper Corrosion, SIR and EMC “uncleaned” for ROL1 classification
 - Passes HP ECM test → Very Electrochemically reliable
- Passes SIR according to IPC J-STD, JIS and Bellcore test methods

Telecore XL-806 is suitable for no-clean applications and offers the balance of high SIR, combined with excellent spread characteristics

Telecore XL-806 Cored Solder Wire

Reliability

Electrical Reliability Data

Reliability Test	XL-806	Requirements
IPC SIR Testing (J-STD-004A)	PASS	$1.0 \times 10^8 \Omega$ minimum
Bellcore SIR Test (GR-78-CORE)	PASS	$1.0 \times 10^{11} \Omega$ minimum
Bellcore EM Test (GR-78-CORE)	PASS	SIR (Initial)/SIR (Final) <10
JIS SIR Test (JIS-Z-3197)	PASS	$1.0 \times 10^{11} \Omega$ minimum
JIS EM Test (JIS-Z-3197)	PASS	Final Reading > $1.0 \times 10^{10} \Omega$ No migration after 1000 hrs
HP ECM Test	PASS (Cu/ImmAg/ImmSn finish)	Pass $\geq 1 \times 10^8$ ohm min No migration after 28 days



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Telecore XL-806 Cored Solder Wire

Reliability

Chemical Reliability Data

Reliability Test	XL-806	Comment
Copper Mirror Tests IPC-TM 650 Test Method 2.3.32	PASS	No complete removal of copper
Copper Corrosion Test IPC-TM 650 Test Method 2.6.15	PASS	No evidence of corrosion
J-STD-004 Classification	ROM1	Passes all Reliability Testing for ROL1 Classification



Cookson Electronics

- **Low Flux Spatter**
 - Safe to use, Operator Friendly, Less Residues on Boards
- **Fast Wetting**
 - Excellent for Manual Assembly and “Drag Solder” Technique
- **Good Spread Characteristics**
 - Excellent First Pass Solder Joints

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- **Clear Non Tacky Residue**
 - **No Clean Residues, Useful for all Applications**
- **Provides Good Joint Appearance**
 - **Makes Inspection easy**
- **J-STD-004 ROM1 designation**
 - **Reliable No Clean Residues**
- **Passes all Reliability testing required for ROL1 classification**

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