

ALPHA[®] Telecore[®] XL-806

No-Clean, Cored Wire Solder

DESCRIPTION

ALPHA Telecore XL-806 has been designed for use in no-clean, lead-free soldering applications. The flux has been specifically formulated to deliver low flux spatter and very fast wetting, making it excellent for manual and robotic soldering applications.

ALPHA Telecore XL-806 has been designed to meet JIS Class A and J-STD-004A ROM1 requirements. It also passes all electro-chemical reliability testing relevant to J-STD-004A ROL1 classification. It offers a balance of high electrical reliability and excellent spread characteristics. Post-soldering residues are hard and can be safely left without the need to remove them. Inspection is also made easier by its clear residues.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

Features	Benefits
Very fast wetting	Excellent for manual assembly and “Drag Solder” technique, high throughput
Very low flux spatter	Safe to use, operator friendly, less residues on boards
Good spread characteristics	Excellent first pass solder joints, conferring high throughput. JIS spread \geq 80%.
Clear non-tacky residue	No-Clean residues, useful for all applications
Provides good joint appearance	Makes inspection easy

PRODUCT INFORMATION

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Amount
J-STD-006C	SAC305	217 to 221	2.2% & 3.3%
Proprietary	SACX [®] Plus 0307	217 to 228	2.2% & 3.3%
J-STD-006C	Sn99.3/Cu0.7	227	2.2%
J-STD-006C	Sn63/Pb37	183	2.2%

* Additional alloys and flux amounts may be available upon request.

APPLICATION GUIDELINES

A soldered joint is formed by heating the parts to be soldered to a temperature in excess of the melting point of the alloy to be used – in hand soldering this is how a soldering iron is used. By feeding the cored wire onto the parts, the flux is able to flow and remove oxidized metal, while the solder creates a thin inter-metallic bond which becomes the solder joint. ALPHA Telecore XL-806 is also ideal for robotic soldering applications.

Note the following tips:

- Use a soldering iron tip size and form to suit the operation: small tips for soldering large components may prevent the formation of a joint or slow the process down.
- Select a solder wire diameter to suit both the soldering iron tip and the parts/components to be soldered.
- Soldering iron systems should provide sufficient heat to satisfy the requirements of the points above.
- A typical solder tip temperature would be between 120 °C and 160 °C above the liquidus temperature of the alloy. The ideal temperature to use is dependent on how thermally demanding the assembly is.
- Cored solder wires can be provided in different grades of alloy so always ensures that you have selected the right grade for the application.
- Do not overheat as this causes an increase in the depth of the inter-metallic layer, which in turn weakens the joint.

TECHNICAL DATA

Category	Results	Procedure/Remarks
Chemical Properties		
Copper Mirror Test JIS	No complete removal of copper	PASS
Copper Mirror Test IPC-TM 650 TM 2.3.32	No complete removal of copper	PASS
Copper Corrosion Test JIS	No evidence of corrosion	PASS
Copper Corrosion Test IPC-TM 650 TM 2.6.15	No evidence of corrosion	PASS
Electrical Properties		
JIS SIR Test (JIS-Z-3197)	$>1.0 \times 10^{11} \Omega$ minimum	PASS
JIS EM Test (JIS Z 3197)	Final reading $>1.0 \times 10^{10} \Omega$ No migration after 1000 hours	PASS
IPC SIR Testing (J-STD-004A)	$1.0 \times 10^8 \Omega$ minimum	PASS
Bellcore SIR Test (GR-78-CORE)	$1.0 \times 10^{11} \Omega$ minimum	PASS
Bellcore EM Test (GR-78-CORE)	SIR(initial)/SIR (Final) < 10	PASS
Hewlett Packard ECM Test	Pass $\geq 1 \times 10^8$ ohm min No migration after 28 days	PASS (Cu/Imm Ag/ImmSn)
Physical Properties		
Rosin Softening Point:	70 to 80 °C	
Acid Value:	160 to 180 mg KOH/g flux	
Halide Content:	$< 1,000$ ppm per JIS Z 3197	
Classification:	JIS - Class A IPC J-STD-004A - ROM1	
Shelf Life / Storage Temperature:	36 months / 0 to 40 °C	

RECYCLING SERVICES

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or [link here](#).



SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available at MacDermidAlpha.com/assembly-solutions/knowledge-base.**

STORAGE

ALPHA Cored Solder Wires should be stored in dry conditions and within a temperature range of 0 to 40 °C. Alpha guarantees the product shelf life for three years from the date of manufacture when stored in the recommended conditions.

CONTACT INFORMATION

To confirm this document is the most recent version, please contact Assembly@MacDermidAlpha.com

www.macdermidalpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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