

# ALPHA® TELECORE® XL-825

## No-Clean Wire Solder

### DESCRIPTION

**ALPHA Telecore XL-825** is a cored wire that is specifically designed to meet JIS Grade AA requirements, with halide content <1,000ppm, for no-clean lead-free applications. It offers the balance of high SIR reliability and excellent spread characteristics. It is among the best performing products in the ALPHA Cored Wire Product portfolio. Excellent soldering performance provides users with efficiency gains from higher first pass yields and faster soldering.

**ALPHA Telecore XL-825** fast wetting and low spattering characteristics make it excellent for manual assembly and “drag soldering” technique. It is safe to use and operator friendly. Inspection is also made easier by its clear residue.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

Features	Benefits
Very fast wetting	Excellent for “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 ≥ 80%.
Very low levels of fumes	Cleaner Working Environment. Less Extraction Maintenance.
Vanilla scented	Users experience improved comfort levels of fumes odor.
Clear non-tacky residue	No-Clean Residues. Useful for all Applications.
Provides good joint appearance	Makes Inspection easy.

ALPHA Telecore XL-825 is suitable for use in any commercial no-clean hand soldering application that specifies compliance to JIS grade AA standard. It is suited to such areas of industry (subject to the above criteria) as TV, Audio equipment, Video/DVD, Gaming Consoles, Automotive, Computer and peripherals, mobile and hand held devices and all types of household appliances. Flux content of 2.2% would be sufficient for most soldering applications as mentioned.

**PRODUCT INFORMATION**

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Amount
J-STD-006C	SAC305	217 to 221	1.1%, 2.2% & 3.3%
Proprietary	SACX Plus 0807	217 to 228	2.2% & 3.3%
Proprietary	SACX Plus 0307	217 to 228	2.2% & 3.3%
Proprietary	SnCX Plus 07	227 to 229	2.2% & 3.3%
ISO 9453	Sn99.3/Cu0.7	227	2.2% & 3.3%
ISO 9453	Sn40/Pb60	183 to 238	2.2%
ISO 9453	Sn60/Pb40	183 to 190	2.2%
J-STD-006C	Sn63/Pb37	183	1.1%, 2.2% & 3.3%
ISO 9453	Sn60/Pb38/Cu2	183 to 191	1.1% & 2.2%

\* **ALPHA Telecore XL-825** may also available in other alloys and flux amounts on 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-825 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**

Physical Properties	Typical Values
Rosin Softening Point	70 to 80 °C
Acid Value	160 to 180 mg KOH/g flux
Halide Content	< 1,000ppm per JIS Z 3197
Classification	JIS - 1a3N Grade AA ROL1 per IPC J-STD-004A/B

Electrical Reliability Test	Requirements	Results
Automotive Damp-Heat Cyclic Test (IEC 60068-2-78)	$1.0 \times 10^8 \Omega$ minimum *	PASS
JIS SIR Test (JIS-Z-3197)	$1.0 \times 10^{11} \Omega$ minimum	PASS
JIS WER Test (JIS Z 3283:2006)	WER Class AA >1000 ohm-m	PASS
IPC SIR Testing (J-STD-004B)	$1.0 \times 10^8 \Omega$ 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

\* IEC 60068-2-78 does not specify a minimum resistance value. Alpha has adopted the stated value.

Chemical Reliability Test	Requirements	Results
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

**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](http://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](mailto:Assembly@MacDermidAlpha.com)**

[www.macdermidalpha.com](http://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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