

ALPHA[®] TELECORE[®] PLUS

No-Clean Cored Solder Wire

DESCRIPTION

ALPHA TELECORE PLUS is a low residue core solder designed for no-clean soldering applications that meet high SIR reliability and excellent spread characteristics. The unique blend of rosin and proprietary activators provide rapid wetting while leaving minimal, optically clear, completely inert residue.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Fast wetting → Excellent for High Throughput.
- Good spread characteristics → Excellent Solder Joints Formation.
- 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
Proprietary	SACX Plus 0307	217 to 228	2.2% & 3.3%
Proprietary	SACX Plus 0807	217 to 226	2.2% & 3.3%
J-STD-006C	Sn96.5Ag3.0Cu0.5 (SAC305)	217 to 221	2.2%, 3.3%
J-STD-006C	Sn95.5Ag4.0Cu0.5 (SAC405)	217 to 221	2.2%
J-STD-006C	Sn96.5Ag3.5	221	2.2%, 3.3%
J-STD-006C	Sn99.3Cu0.7	227	2.2%, 3.3%
J-STD-006C	Sn63Pb37	183	1.1%, 2.2%
J-STD-006C	Sn62Pb36Ag2	179	1.1%, 2.2%
J-STD-006C	Sn10Pb88Ag2	268 to 299	1.1%, 2.2%

* TELECORE PLUS may also be available in other or special 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.

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.

If you choose to use a liquid rework flux, ALPHA NR-205 Flux is recommended to provide the optimal combination of high long-term reliability and low residue level. ALPHA NR-205 Flux is available in Alpha's Write Flux Pens for precision flux application.

TECHNICAL DATA

Physical Properties	Typical Values
Rosin Grade	WW per Fed Spec. LL-R-626
Rosin Softening Poin	71 °C (160 °F)
Halide Content	< 1,000ppm per JIS Z 3197
Classification	ROL0 per ANSI/J-STD-004 ROL1 per IPC J-STD-004A/B
Shelf Life / Storage Temperature	36 months / 10 to 40 °C

Electrical Reliability Test	Requirements	Results
Surface Insulation <ul style="list-style-type: none"> - Belcore Test (GR-78-CORE) - IPC J-Std 004A - IPC-J-Std 004B 	$1.0 \times 10^{11} \Omega$ minimum $1.0 \times 10^8 \Omega$ minimum $1.0 \times 10^8 \Omega$ minimum	PASS
Electromigration IPC J-Std 004B	$SIR(\text{initial})/SIR(\text{Final}) < 10$	PASS

Chemical Reliability Test	Requirements	Results
Copper Mirror Test (IPC-TM-650- 2.3.32)	No evidence of mirror breakthrough	PASS
Copper Corrosion Test (IPC-TM-650-2.6.15)	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.**

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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