ALPHA® FLUITIN AS

Halide-Free, No-Clean, Cored Solder Wire

DESCRIPTION

ALPHA FLUITIN AS is an activated rosin cored solder wire for general hand soldering applications.

ALPHA FLUITIN AS is suitable for use in any commercial no-clean hand soldering application that specifies compliance to J-STD-004 ROL0. It is suited for use in J-STD-001B Class III – High Performance Electronic Products, where halide free has been specified – products where continued high performance or performance on demand is crucial and equipment downtime cannot be tolerated and / or the end use environment may be uncommonly harsh. This classification would typically include military weapons and defense systems, aerospace, life support systems and under the hood automotive electronics.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Halide Free
- ROL0 – Suitable for J-STD-001B Class III – High performance electronic products
- Non-corrosive, clear and safe residues
- Good wetting
- Pleasant pine smell
- Provides good joint appearance

PRODUCT INFORMATION

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Amount
Proprietary	SACX Plus® 0307	217 to 228	2.2% & 3.3%
J-STD-006C	SAC305	217 to 221	2.2% & 3.3%
J-STD-006C	Sn60Pb40	183 to 191	1.4%, 2.2%, 3.3%
J-STD-006C	Sn60Pb38Cu2	183 to 191	1.4%, 2.2%, 3.3%
J-STD-006C	Sn62Pb36Ag2	179	3.3%

* ALPHA FLUITIN AS 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 615 RMA Flux is recommended to maintain high electrical reliability and halide-free residues. ALPHA 615 RMA 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 Point:	71 ºC
Acid Value:	170 to 220 mg KOH/g flux (IPC-TM-650-2.3.13)
Halide Content:	<500 ppm (IPC-TM-650-2.3.28.1)
Classification:	ROL0 per IPC J-STD-004 IPC-SF-818 – L3CN ISO 12224 – 1.1.3

Electrical Reliability Test	Requirements	Results
IPC SIR Testing (J-STD-004A)	$1.0 \times 10^8\ \Omega$ minimum	PASS

Chemical Reliability Test	Requirements	Results
Copper Mirror Test (IPC-TM-650- 2.3.32)	No complete removal of copper	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