

# ALPHA<sup>®</sup> PURE CORE

## Water Soluble, Flux Cored Wire Solder

### DESCRIPTION

**ALPHA Pure Core** is an organic activated, water soluble flux cored solder that meets the Corrosion Resistance Test and Surface Insulation Resistance requirements per IPC-TM-650 2.6.3.3.

**ALPHA Pure Core** contains a water soluble resin derivative of rosin and a buffered organic activation system. This efficient flux produces bright, shiny solder connections, even if cleaning is delayed for several days.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

ALPHA Pure Core is recommended for use in any electronic hand soldering application where high fluxing strength and the ability to clean with water are desired. It has low smoke and odor characteristics which make it particularly suited for touch-up and repair of printed circuit boards where personnel are in close contact with the product.

The very effective activator system enables the flux to penetrate even heavily tarnished surfaces among the following materials:

Beryllium Copper	Copper	Solder (Plate)
Brass	Lead	Solder (Hot Dip)
Bronze	Nickel (Plate)	Terne (Plate)
Cadmium (Plate)	Silver	Tin (Hot Dip)
		Tin (Plate)

**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 (Sn96.5/Ag3.0/Cu0.5)	217 to 221	2.2% & 3.3%
J-STD-006C	Sn63/Pb37	183	2.2% & 3.3%
J-STD-006C	Sn62/Pb36/Ag2	179	2.2% & 3.3%

\* ALPHA Pure Core may also be 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.

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.
- 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 870 Series Water Soluble Resin Fluxes are recommended.**

The post soldering residues of ALPHA Pure Core are fully soluble in water. Even after several days, flux residues remain water soluble and no corrosion products are visible. Cold water soaking can be used; however, hot water will greatly accelerate the cleaning process. Additionally, ALPHA Pure Core flux residues can also be removed in conventional solvent vapor cleaning processes and semi-aqueous processes.

Water effluent is neutral which eliminates the need for pH adjustment prior to disposal. However, local regulations may require pre-treatment to remove dissolved lead from water effluent.

**TECHNICAL DATA**

Properties	Typical Values
Physical State	Waxy-Solid
Flux Type	Organic, water-soluble resin
Water Extract Resistivity	> 20,000 ohm-cm
Typical pH (5% H <sub>2</sub> O solution)	6.8 ± 0.5
Residues	Water soluble, biodegradable
Classification	ORM1 per IPC J-STD-004B
	2.1.2 per ISO 12224

**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](https://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)

<p><b>North America</b> 109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.367.5460</p>	<p><b>Europe</b> Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400</p>	<p><b>Asia</b> 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100</p>
--	--	---

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

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "R" and "TM" are registered trademarks or trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.