

ALPHA[®] AS2

Flux Cored, Wire Solder, Type: J-Std-004 Orh1, Iso 12224 – 2.1.2

DESCRIPTION

ALPHA AS2 is a rosin-free activated cored solder wire. Its flux formation is based on volatile organic compounds with an extremely effective activator system. **ALPHA AS2** is particularly formulated for flame soldering, for example with bulb production and capacitor manufacturing. However, **ALPHA AS2** can be used with any other soldering technique if temperature is high enough and sufficient heat applied, and SIR of flux residues is not a premium requirement.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

ALPHA AS2 flux is considered to be conditional corrosive and decomposition starts at 135 °C. With continued heating the flux nearly completely evaporates. ALPHA AS2 is not flammable and provides very smooth solder flow until volatilized. These properties are especially suited for flame soldering in bulb industries and capacitor production, but also for other applications, where activity of rosin flux is not sufficient.

PRODUCT INFORMATION

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Amount
ISO 9453	Sn97 Cu3	227 / 310	2.2%
ISO 9453	Sn99 Cu1	227 / ~235	2.2% & 3.3%

APPLICATION GUIDELINES

ALPHA AS2 is suited for general use where the surfaces are hard to solder. ALPHA AS2 is qualified for structural soldering, particularly for flame soldering. When cleaning is required, because of easy to corrode base material, flux residues can be cleaned off by water, and if required with additional cleaners.

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. 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:

If using a soldering iron:

- Select a 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.
- 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 dependant on how thermally demanding the assembly is.
- Select a solder wire diameter to suit both the soldering iron tip and the parts/components to be soldered.
- Do not overheat as this causes an increase in the depth of the inter-metallic layer, which in turn weakens the joint.

TECHNICAL DATA

Properties	Typical Values
Halide Content:	6.5 to 7.4 % wt/wt
Classifications:	ORH1 per IPC J-STD-004
	2.1.2 per ISO 12224
Copper Mirror	>50% breakthrough per J-STD-004
Surface Insulation Resistance (Not cleaned)	Fails IPC-SF-818 Class III. Test results to J-STD-004 85°C/85 RH / 7 days Comb Down = Fail; Comb Up = 2.49×10^9 Ohms (Pass $>1 \times 10^8$ Ohms)

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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