

# ALPHA<sup>®</sup> FT-2002 ROSIN FREE

Colophony Free, Halide Free, No Clean, Flux Cored Wire Solder

## DESCRIPTION

**ALPHA FT-2002 Rosin Free** is a fully synthetic (no rosin or rosin derivatives) flux cored wire solder. It is designed to be a direct replacement for traditional rosin-cored wire solders. The flux core is also halide-free yet still provides very good wetting performance.

**ALPHA FT-2002 Rosin Free** leaves post-soldering minimal residues that are clear and hard. Residues have a high surface insulation resistance and can be left without need to remove them.

**ALPHA FT-2002 Rosin Free** has been formulated to have a distinctive odor that distinguishes it from rosin containing flux cored wire solders.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

## FEATURES & BENEFITS

Features	Benefits
Rosin Free	Colophony free for a safe working environment
Halide Free	High electrical reliability
Fast wetting	Low cycle times for component touch-up and manual assembly
Good spread characteristics	Excellent first pass solder joints
Minimal, clear & safe residue	No-clean residues, useful for all applications
Provides good joint appearance	Makes inspection easy

ALPHA FT-2002 Rosin Free suitable for use in any commercial no-clean hand soldering application that requires a rosin free product and compliance to J-STD-004 – ORL0 classification.

**PRODUCT INFORMATION**

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Amount
J-STD-006C	SAC305	217 to 221	1.4% & 2.2%
ISO 9453	Sn63/Pb37	183	1.4%
ISO 9453	Sn60/Pb40	183 to 191	1.4%

\* **ALPHA FT-2002** Rosin Free 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.
- 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 ensure 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 NR205 No-Clean Low Residue Flux is recommended to maintain high electrical reliability. ALPHA NR205 is available in Alpha's Write Flux Pens for precision flux application.

**TECHNICAL DATA**

Physical Properties	Typical Values
Acid Value:	250 mg KOH/g flux (IPC-TM-650-2.3.13)
Halide Content:	<500 ppm (IPC-TM-650-2.3.28.1)
Classification:	ORL0 per IPC J-STD-004

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

**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 AlphaAssembly.com**

**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  
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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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