



# TECHNICAL BULLETIN



## ALPHA FT-2002 ROSIN FREE No-Clean Cored Solder Wire

Type: J-STD-004 - ORL0 / IPC-SF-818 - L3CN / ISO 12224 - 2.2.3

### GENERAL DESCRIPTION

Alpha FT-2002 ROSIN FREE is a fully synthetic (no rosin or rosin derivatives) cored solder wire designed to be a drop in replacement for traditional rosin cored solders.

The flux core is halide free and rosin free but provides very good tarnish removing properties and high surface insulation resistance.

Alpha FT-2002 ROSIN FREE leaves post-soldering residues that are clear and hard, and which can be safely left without the need to remove them. Alpha FT-2002 ROSIN FREE has been specifically formulated to have a distinctive odour that distinguishes it from rosin products.

### FEATURES & BENEFITS

- HALIDE FREE, ROSIN FREE (no rosin or rosin derivative).
- ORL0 - suitable for J-STD-001B Class III - High performance electronic products.
- Minimal, non-corrosive clear and safe residues.
- Fast wetting.
- Good spread characteristics.
- Compatible with lead-free alloys - rosin free / lead-free cored solder wire.
- Available in 1.1%, 1.4% & 2.2% flux contents.

### TECHNICAL SPECIFICATION

Physical Properties	Typical Values
Acid Value:	250 (mg KOH/g)
Halide Content:	None
Corrosiveness:	Classified to J-STD-004 as L type material
Copper Mirror:	Classified to J-STD-004 as No Breakthrough
Surface Insulation Resistance: (Not Cleaned)	Passes IPC-SF-818 Class III. Test results to J-STD-004

Surface Insulation Resistance: (Not Cleaned)	85°C / 85RH / 7 days CD = 1.2E10 Ohms (Pass >1E08 Ohms)
Classification:	J-STD-004 - ORL0 IPC-SF-818 - L3CN ISO 12224 - 2.2.3

### Solder Alloys Available:

Standard	Alloy	Melting or Solidus / Liquidus Temp °C
ISO 9453 (1)	S-Sn63Pb37	183
ISO 9453 (2)	S-Sn60Pb40	183-190
ISO 9453 (3)	S-Sn50Pb50	183-215
ISO 9453 (5)	S-Pb60Sn40	183-235
ISO 9453 (25)	S-Sn60Pb38Cu2	183-190
ISO 9453 (23)	S-Sn99Cu1	231
ISO 9453 (29)	S-Sn97Ag3	221
 www.lead-free-solders.com	SAC 305	215-218

### APPLICATION GUIDELINES

Alpha FT-2002 ROSIN FREE is 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.

It is suited for use in J-STD-001B Class III - High Performance Electronic Products - 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 defence systems, aerospace, life support systems and under the hood automotive electronics.

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## HINTS & TIPS ON SOLDERING IN GENERAL

Always remember that 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 oxide films, whilst the solder creates a thin intermetallic bond which becomes the solder joint.

Note the following tips:

1. Use a soldering iron bit size and form to suit the operation: small bits for soldering large components may prevent the formation of a joint or slow the process down.
2. Always select wire diameters to suit both soldering iron bit and the parts/components to be soldered. Soldering iron systems should provide sufficient heat to satisfy the requirements of 1 and 2 above.
3. Cored solder wires can be provided in different grades of alloy so always ensure you have selected the right grade for the application.
4. Do not overheat as this causes an increase in the depth of the intermetallic layer, which in turn weakens the joint.

All materials from Cookson Electronics Assembly Materials are manufactured to meet the most stringent of standards and to ensure the best possible finish to every soldering application.

## TECHNICAL SUPPORT

For technical assistance and support:  
North Europe: Tel: +44 (0) 20 8665 6666  
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## HEALTH & SAFETY

Observe standard precautions for handling and use. Use in well ventilated areas. DO NOT SMOKE.

Alpha FT-2002 ROSIN FREE wire is not considered toxic. However, its use in typical soldering applications will generate a small amount of decomposition and fumes. These fumes **must** be adequately exhausted/vented for operator safety and comfort.

In order to carry out your full Coshh assessment, consult the product Material Safety Data Sheet (MSDS).

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