

# ALPHA® RS7MI

No Clean, Cored Solder Wire

## DESCRIPTION

**ALPHA RS7MI** has an activated rosin flux core. The halide activator system provides extremely good tarnish removing properties. **ALPHA RS7MI** has good soldering performance even on very difficult soldering surfaces

**ALPHA RS7MI** leaves post-soldering residues that are hard and which can be safely left without need to remove them (depending on classification of end use product). If the removal of residues is required then, semi-aqueous or aqueous systems can be used effectively.

## FEATURES & BENEFITS

- *Very fast wetting* → *Low Cycle times*
- *Good spread characteristics* → *Excellent Solder Joints*
- *Pleasant pine smell* → *Operator Friendly*
- *Clear and safe residue* → *No-Clean Residues, Useful for all Applications*
- *Provides good joint appearance* → *Makes Inspection easy*

**ALPHA RS7MI** is suitable for use in any commercial no-clean hand soldering application that specifies compliance to J-STD-004 – ROM1.

It is suited to areas of industry that require higher flux activity levels to solder poor / highly tarnished surfaces, while still providing good reliability.

## PRODUCT INFORMATION

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Amount
J-STD-006C	SAC305	217 - 221	2.2%
Proprietary	SACX Plus® 0307	217 - 228	2.2% & 3.3%
ISO9453	Sn97/Cu3	227 - 310	1.4% & 2.2%
ISO9453	Sn5/Pb93.5/Ag1.5	296 - 301	2.2%

\* **ALPHA RS7MI** may also be available in other or special alloys and flux amounts on request.

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## APPLICATION

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.

**ALPHA RS7MI** is also ideal for robotic soldering applications. High quality spooling and precise wire diameters enable high productivity.

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 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 615** Flux is recommended to maintain high electrical reliability. **ALPHA 615** flux is available in Alpha's 'Write Flux Pens' for precision flux application.

## TECHNICAL DATA

Physical Properties	Typical Values
Rosin Softening Point:	72°C (162°F)
Acid Value:	175 - 195 mg KOH/g flux (IPC-TM-650-2.3.13)
Halide Content:	1.45 – 1.80% weight (IPC-TM-650-2.3.28.1)
Copper mirror:	<50% breakthrough per IPC J-STD-004
Classification:	ROM1 per IPC J-STD-004 ISO 12224 – 1.1.2. Din 8511 – F – SW26

Electrical Reliability Test	Requirements	Results
IPC SIR Testing (J-STD-004A)	1.0 × 10 <sup>8</sup> Ω minimum	PASS

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## SAFETY

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

**ALPHA RS7MI** wire is not considered toxic. However, its use in typical soldering applications will generate a small amount of decomposition and fumes. These fumes should be adequately exhausted / vented for operator safety and comfort. Consult the SDS for additional safety information. The most recent version of the SDS is available from [alphaassembly.com](http://alphaassembly.com).

## STORAGE

ALPHA Cored Solder Wires should be stored in dry conditions and within a temperature range of 0°C 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 is the most recent issue, please contact Alpha Assembly Solutions

[AlphaAssembly.com](http://AlphaAssembly.com)

<p><b>North America</b> 300 Atrium Drive Somerset, NJ 08873, USA 800.367.5460</p>	<p><b>Europe</b> Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 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>
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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 directory assistance Chemtrec 1 - 800 - 424 - 9300.

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