

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.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

| 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 to 221 | 2.2% |
| Proprietary | SACX Plus® 0307 | 217 to 228 | 2.2% & 3.3% |
| ISO9453 | Sn97/Cu3 | 227 to 310 | 1.4% & 2.2% |
| ISO9453 | Sn5/Pb93.5/Ag1.5 | 296 to 301 | 2.2% |

* ALPHA RS7MI may also be available in other or special 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.

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 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 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 to 195 mg KOH/g flux (IPC-TM-650-2.3.13) |
| Halide Content: | 1.45 to 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) | $1.0 \times 10^8 \Omega$ minimum | 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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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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