

ALPHA® CLEANLINE 7000

No-Clean, Low Residue Wire Solder

DESCRIPTION

ALPHA Cleanline 7000 is a very low residue flux core wire solder designed for no-clean hand soldering applications. The flux core provides sufficient activity to solder successfully to bare copper and other demanding applications. The unique blend of resin and proprietary non-halide activators provide rapid wetting, while leaving minimal levels of post-soldering residue. This residue is optically clear, soft and easy-to-probe, tack-free and non-corrosive. In some circumstances and over time the residue can have a white milky appearance.

FEATURES & BENEFITS

- Excellent wetting, high activity for ease of soldering.
- Unique flux system in which flux constituents volatilize at soldering temperatures leaving very low amounts of soft, optically clear residue. This minimizes false rejects in pin testing and provides excellent board cosmetics.
- Halide-free and meets Bellcore requirements for high reliability assemblies.
- If desired, post soldering residues can be cleaned with hot water for residue removal when desired.

PRODUCT INFORMATION

ALPHA Cleanline 7000 is available in the 63Sn/37Pb and 62Sn/36Pb/2Ag and SAC305 alloys. It is available in a number of standard diameters ranging from 0.010" to 0.062" and in flux core percentages P1 or P2 (or 1.1% and 2.2% nominal) for 63Sn/37Pb. For 62/36/2, only P2 (2.2% nominal) flux loading is available. For SAC305 is P3 (3.3% nominal). For any other alloys and flux amounts requirement, please contact your Alpha sales representative.

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.

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.

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- 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 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 NR205 Series Fluxes are recommended to maintain high electrical reliability. ALPHA Cleanline 7000 is designed as a no-clean wire solder. However, if it is desired to remove the small amount of residue which does remain, the residues can be easily removed by washing with hot water. ALPHA Cleanline 7000 passes Bellcore surface insulation resistance requirements, both uncleaned and after water washing at 140°F.

TECHNICAL DATA

Physical Properties	Typical Values
Corrosiveness	Passes Copper Mirror Test
Halide Content	Passes Silver Chromate Paper Test
Wetting Balance Test	Wetting times comparable to fully activated core solder fluxes
Surface Insulation Resistance	Passes IPC-TM-650 2.6.3.3, uncleaned and after cleaning with water. Meets Bellcore Spec. TR-NWT-000078
Electromigration	Passes Bellcore electrical requirements – fails visual requirements
IPC –J-STD-004	ORM0
ISO 12224	2.1.3
Shelf Life / Storage Temperature	36 months /10°C - 43°C

SAFETY

Observe standard precautions for handling and use. Use in well ventilated areas. DO NOT SMOKE during use. ALPHA CLEANLINE 7000 Cored 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. The effluent for ALPHA CLEANLINE 7000 post solder cleaning systems should be analyzed for dissolved lead.

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STORAGE

ALPHA Cored Solder Wires should be stored in dry conditions and within a temperature range of 0°C to 40°C. When stored under these conditions the product shelf life is indefinite. However, Alpha guarantees the product shelf life for three years from the date of manufacture when stored in dry conditions and within 0°C to 40° C.

CONTACT INFORMATION

To confirm this is the most recent issue, please contact Alpha Assembly Solutions

AlphaAssembly.com

<p>North America 300 Atrium Drive Somerset, NJ 08873, USA 800.367.5460</p>	<p>Europe Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 01483.758400</p>	<p>Asia 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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