



ALPHA® TELECORE HF-850

Halogen-Free, Halide-Free, No-Clean, Lead Free Cored Solder Wire



DESCRIPTION

ALPHA® Telecore HF-850 is the fastest wetting and lowest spattering, Halogen Free and Halide Free cored wire offering from **ALPHA®**. It performs admirably when benchmarked against Halogen and Halide containing competitive products available in the market and is a viable option to meet environmental requirements.

ALPHA® Telecore HF-850's rapid wetting meets drag soldering and all other common soldering needs. Its clear residue allows easy inspection of solder joints and the very low spatter rate ensures board cosmetics and user comfort is maintained. All this translates to a safe and environmentally compliant product that is operator friendly and a delight to use.

FEATURES & BENEFITS

- *Very fast wetting* → *Excellent for component touch-up operations and manual assembly*
- *Very low flux spatter* → *Safe to use, Operator Friendly, Less Residues on Boards*
- *Good spread characteristics* → *Excellent First Pass Solder Joints. Spread Ability per JIS is ≥ 80%.*
- *Very low levels of fumes* → *Cleaner Working Environment, Less Extraction Maintenance*
- *Clear non-tacky residue* → *No-Clean Residues, Useful for all Applications*
- *Provides good joint appearance* → *Makes Inspection easy*
- *Halogen and Halide Free* → *Environmental compliance*

ALPHA® Telecore HF-850 is suitable for use in any commercial no-clean soldering application that specifies compliance to the IPC ROL0 standard.

It is suited to such areas of industry (subject to the above criteria) as Consumer Electronics, Automotive, Computer and peripherals, Mobile devices and all types of household appliances.

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, while the solder creates a thin inter-metallic bond which becomes the solder joint.

Note the following tips:

- 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.
- 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 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.

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 SPECIFICATION

Standard	Alloy Designation	Melting or Solidus / Liquidus Temp °C	Flux Configuration
J-STD-006B	SAC305 Sn63/Pb37	217 - 221 183	2.2% & 3.3% 2.2% & 3.3%
Proprietary	SACX Plus 0307	217 - 228	2.2% & 3.3%

* TELECORE HF-850 is also available in other or special alloys on request.

ALPHA® TELECORE HF-850 is a Halogen Free product and passes the standards listed in the Table below:

Halogen Standards			
Standard	Requirement	Test Method	Status
IEC 612249-2-21	Post Soldering Residues contain < 900 ppm each or total of < 1500 ppm Br or Cl from flame retardant source	TM EN 14582	Pass
JEDEC <i>A Guideline for Defining "Low Halogen" Electronics</i>	Post soldering residues contain < 1000 ppm Br or Cl from flame retardant source		Pass

Physical Properties	Typical Values
Rosin Softening Point:	70°C – 80°C
Acid Value:	180 - 200 mg KOH/g flux
Halide Content:	< 500ppm per IPC J-STD-004
Classification:	IPC - ROL0
Shelf Life / Storage Temperature	36 months / 10°C - 43°C

Electrical Reliability Test	Requirements	Results
JIS SIR Test (JIS-Z-3197)	1.0 × 10 ¹¹ Ω minimum	PASS
IPC SIR Testing (J-STD-004A)	1.0 × 10 ⁸ Ω minimum	PASS
IPC SIR Testing (J-STD-004B)	1.0 × 10 ⁸ Ω minimum	PASS
Bellcore SIR Test (GR-78-CORE)	1.0 × 10 ¹¹ Ω minimum	PASS
Bellcore EM Test (GR-78-CORE)	SIR(initial)/SIR (Final) < 10	PASS

Chemical Reliability Test	Requirements	Results
Copper Mirror Test (JIS)	No complete removal of copper	PASS
Copper Mirror Test (IPC-TM 650 TM 2.3.32)	No complete removal of copper	PASS
Copper Corrosion Test (JIS)	No evidence of corrosion	PASS
Copper Corrosion Test IPC-TM 650 TM 2.6.15	No evidence of corrosion	PASS

HEALTH & SAFETY

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

ALPHA® Telecore HF-850 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.

