

# ALPHA<sup>®</sup> HF-850

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

## Fast Wetting and Low Spattering Cored Solder Wire

ALPHA Telecore HF-850 is the fastest wetting and lowest spattering, Halogen-Free and Halide-Free cored wire offering from Alpha. It provides excellent performance when benchmarked against Halogen and Halide containing competitive products available on the market and is a viable option to meet environmental requirements.

ALPHA Telecore HF-850's rapid wetting enables its use in drag soldering and minimizes cycle time in robotic and hand soldering applications. Its clear residue allows easy inspection of solder joints and the very low spatter rate ensures board cosmetics and user comfort are maintained. All this translates to a safe and environmentally compliant product that is operator friendly while maintaining high levels of productivity.



## KEY FEATURES

- ALPHA HF-850 in combination with our Innolot alloy offers the highest thermo-mechanical reliability.
- Halide-free per IPC J-STD-004 and complies with IPC ROL0 standard.
- Very fast wetting for excellent component touch-up operations and manual assembly.
- Halogen-free chemistry allows use of HF-850 in processes requiring halogen-free materials.
- Very low flux spatter and low levels of fumes for operator friendly use and a cleaner working environment.
- Clear non-tacky residue does not require cleaning.
- Good spread characteristics improve first pass yield per JIS (>80%).
- Excellent joint appearance for easy inspection.



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

ALPHA Telecore HF-850 is the fastest wetting and lowest spattering halogen-free / halide-free cored solder wire Alpha offers. It performs well when benchmarked against competitive halogen-free / halide-free products and meets most environmental requirements.

## TECHNICAL SPECIFICATIONS

STANDARD	ALLOY* DESCRIPTION	MELTING OR SOLIDUS/ LIQUIDUS TEMPERATURE °C	FLUX CONFIGURATION
Proprietary	Innolot**	206–218	2.2%
J-STD-006C	SAC305	217–221	1.1%, 2.2% & 3.3%
Proprietary	SACX <sup>®</sup> Plus 0307	217–228	2.2% & 3.3%
J-STD-006C	Sn99.3/Cu0.7	227	2.2% & 3.3%
J-STD-006C	Sn63/Pb37	183	1.1%, 2.2% & 3.3%
Proprietary	SnCX Plus 07	227–229	2.2% & 3.3%

\* Telecore HF-850 is also available in other alloys upon request.

\*\* All electronic components used with Innolot solder alloy must be lead-free to eliminate the formation of tin / lead / bismuth intermetallic which has a melting point under 100°C.

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: A Guideline for Defining "Low Halogen" Electronics	Post soldering residues contain <1000 ppm Br or Cl from flame retardant source		Pass

PHYSICAL PROPERTIES	TYPICAL VALUES
Rosin Softening Point:	70-80°C
Acid Value:	180-200mg KOH/g flux
Halide Content:	<500 ppm per IPC J-STD-004
Classification:	IPC – ROLO
Shelf Life / Storage Temperature:	36 months / 0°– 40°

  

ELECTRICAL RELIABILITY TEST	REQUIREMENTS	RESULTS
Damp Heat Test (IEC 60068-2-78)	$1.0 \times 10^8 \Omega$ minimum***	Pass
JIS SIR Test (JIS Z 3197)	$1.0 \times 10^{11} \Omega$ minimum	Pass
IPC SIR Testing (J-STD-004A)	$1.0 \times 10^8 \Omega$ minimum	Pass
IPC SIR Testing (J-STD-004B)	$1.0 \times 10^8 \Omega$ minimum	Pass
Bellcore SIR Test (GR-78-CORE)	$1.0 \times 10^{11} \Omega$ minimum	Pass
Bellcore EM Test (GR-78-CORE)	SIR(initial) / SIR(final) <10	Pass

\*\*\*IEC 60068-2-78 does not specify a minimum resistance value. Alpha has adopted the stated value.

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



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Alpha is a product brand of MacDermid Alpha Electronics Solutions.

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