

POWERTRAIN/CHASSIS ELECTRONICS

Assembly technology enablers for enhanced reliability

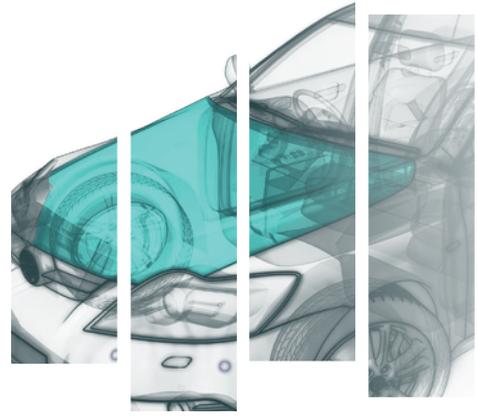
Electronics are increasingly being located in parts of the vehicle which expose them to extreme environmental stress. One of the most significant effects has been the requirement for electronics to operate reliably at higher operating temperatures in addition to meeting more stringent warranty requirements.

Alpha's advanced range of solder pastes that contain the InnoLot alloy are designed to withstand the most demanding of operational environments (temperature and vibration) that require reliability beyond the capabilities of traditional SAC alloys.

Alpha has a range of products that can reduce the cost of producing assemblies through process elimination, energy reduction and reduced reliance on precious metals whilst ensuring best-in-class reliability.



PRODUCT TYPE	PRODUCT NAME	PERFORMANCE IMPACT
Alloy	InnoLot, SAC305 and SACX Plus 0807	Enhanced product reliability through increased solder joint life under harsh environmental conditions
Solder Paste	OM-358 SAC305, InnoLot	Ultra Low Voiding increases process stability, thermal and electrical performance
	OM-353 SAC305, InnoLot	Excellent printability at fine features and high electrochemical reliability reduces rework and increases operational throughput while enhancing reliability
	CVP-390 SAC305, InnoLot	
Liquid Flux	EF-6000	Pin testable low solid content flux with exceptional electrical reliability
	EF-2210	Thermally stable VOC-free flux to help meet air quality regulation
	EF-6808HF	Wide process window halogen free flux with robust soldering performance
	EF-8800HF	Halogen free flux for complicated board and difficult-to-solder process
Cored Wire	Telecore® HF-850 SAC305, InnoLot	Faster wetting and low spatter increase production throughput and yield



HIGH RELIABILITY SOLDER TECHNOLOGY

InnoLot Alloy

The InnoLot alloy is a SAC based alloy developed with the Automotive industry for use in environments exposed to high temperature and vibration. The creep resistance properties of the InnoLot alloy offer significant improvements in reliability over standard SAC alloys.

ALPHA® OM-358

ALPHA® OM-358 is the next generation high-reliability InnoLot solder paste designed to provide ultra-low voiding performance on all component types including bottom termination components. ALPHA® OM-358 achieves IPC7095 Class III voiding on BGA components and less than 10% voiding on bottom termination components. ALPHA® OM-358 offers increased process stability and improved electrical and thermal performance through the reduction in average void levels and distribution of voids.

ALPHA® CVP-390

ALPHA® CVP-390 is a broad latitude paste applicable with multiple alloys and powder types. The CVP-390 chemistry offers excellent fine feature printability and world class electrochemical reliability down to 0.100mm.

ALPHA® OM-353

ALPHA® OM-353 offers flexibility of multiple powder types and alloys to offer excellent fine feature printability and best in class reliability. The ability to contain solder flux residue enhances electrochemical reliability and reduces issues generated from solder wicking on leads.



PRODUCT TYPE	ALPHA® OM-358	ALPHA® CVP-390	ALPHA® OM-353
Alloy	InnoLot SAC305	InnoLot SAC305	InnoLot SAC305
Benefits	Ultra-low voiding High Electrochemical Reliability	World class electrochemical reliability Fine feature printability	Solder Residue Containment Fine Feature Printability Excellent Processability
Performance	Enhancements in process stability, thermal performance, and electrochemical reliability improve the performance		

CORED WIRE FOR AUTOMOTIVE ELECTRONICS

ALPHA® Telecore® HF-850

ALPHA® Telecore® HF-850 is a high performance, lead-free alloy solder wire. Its halogen-free formulation meets the highest levels of electrochemical reliability, making it suitable for the harsh environment encountered in the Powertrain/Chassis area.



PRODUCT TYPE	TELECORE® HF-850
Alloy	InnoLot, SAC 305 and SACX® Plus
Properties	Halogen and Halide Free
Key Benefits	Very fast wetting, Very low flux spatter, Good spread characteristics and excellent first pass solder joints
Performance	Increased throughput and improved product life