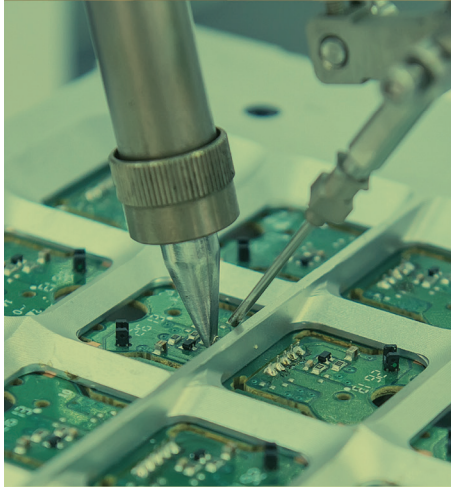


ALPHA® MATERIAL SET COMBINATIONS



Reliability directly impacts customer warranty claims and returns. An OEM's long-term competitiveness and endurance is dependent upon their ability to provide efficient and consistent assemblies. The right combination of Solder Paste, Liquid Flux, Cored Wire and Flux Gel is a critical aspect to producing high-performing products that will meet stringent specifications, and thereby a key concern for OEMs and customers alike. So what material sets provide the highest reliability?

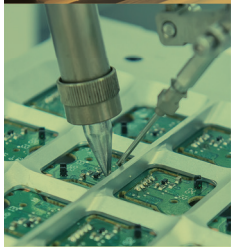
At Alpha, we believe that our customers should have the best tools available to produce a reliable Printed Circuit Board. This includes our ALPHA® Material Set Combinations of Solder Products that has been fully tested to insure that when used together, these materials provide the excellent soldering performance and more importantly, the best possible reliability performance.

As such, we have taken the guess work out of choosing material pairings and have completed the SIR Combo testing for you to demonstrate which material set choices offer the highest possible level of reliability.



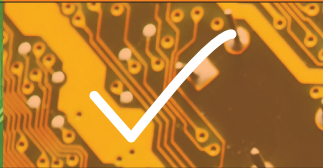

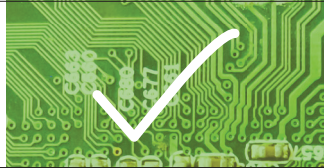
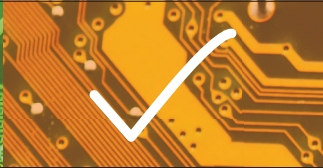

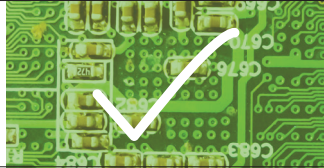
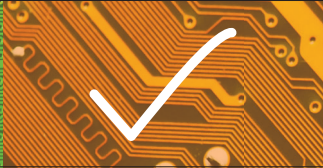

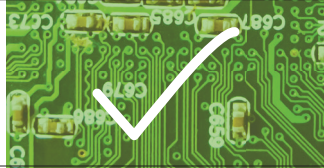
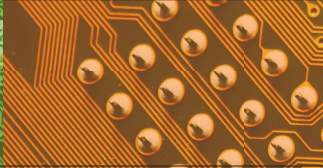


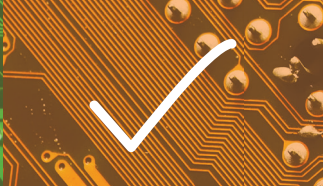




ALPHA[®] MATERIAL SET COMBINATIONS



The following material pairings have completed SIR Combo testing and demonstrate which material set choices offer the highest possible level of reliability. All Combinations were tested to IPC TM650 2.6.3.7 / J-STD 004B. The test conditions were 40°C at 90% RH with 12.5 volt bias applied every 20 minutes.

ALPHA [®] PRODUCT SOLUTION		MATERIAL SET COMBINATIONS	
		No-Clean, Lead-Free Material Set Suitable for mix technology assemblies that employ print, reflow, wave or selective solder process and secondary solder/touch-up operations	Complete Halogen/ Halide-Free, No-Clean, Lead-Free Material Set Suitable for both standard and thicker density PCBs
	ALPHA[®] CVP-390 Solder Paste Zero-Halogen , High Reliability Excellent print performance and stencil life, wide reflow profile window, excellent wetting and coalescence performance, low voiding.		
	ALPHA[®] Telecore Plus HF-850 Cored Wire Zero-Halogen, High Reliability Fast wetting, low spatter, clear, non-tacky residues, provides good solder joint cosmetics.		
	ALPHA[®] HF-1 Flux Gel Zero-Halogen, High Reliability, No-Clean High reliability, wide reflow profile window, excellent wetting and coalescence performance, low voiding, provides good solder joint cosmetics.		
	ALPHA[®] EF-6103 Liquid Soldering Flux Low Solids, High Reliability, No-Clean Ideal for selective and wave soldering, provides superior performance in pin testing, hole-fill and solder balling while also providing good solder joint cosmetics.		
	ALPHA[®] EF-8800HF Liquid Soldering Flux Low Solids, High Reliability, No-Clean Best-in-class wave solder flux for thick boards that require high pre-heat temperatures above 125°C and solder pot temperatures above 270°C with extending solder pot contact times.		

Alpha is currently in the process of testing new material set combinations and will publish additional pairings in the near future.

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