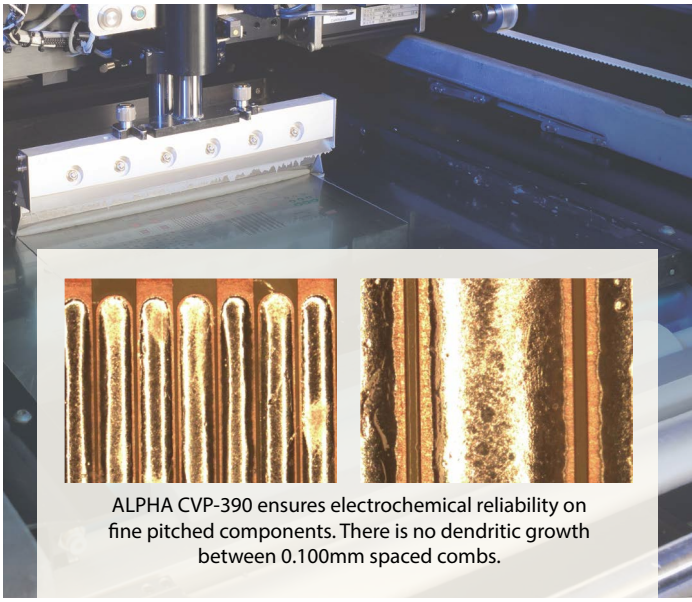
ALPHA® CVP-390

No-Clean, Lead-Free, Zero-Halogen Solder Paste

Best-In-Class Electrochemical Reliability and Pin Testability

ALPHA CVP-390 is a lead-free, zero-halogen, no-clean, multi-alloy capable solder paste designed for high reliability applications where electrochemical reliability and excellent pin testability is required. Its superior print volume deposit repeatability across all area ratios provides value by reducing defects associated with print process variability. Assembly processes that can gain from ALPHA CVP-390 include:

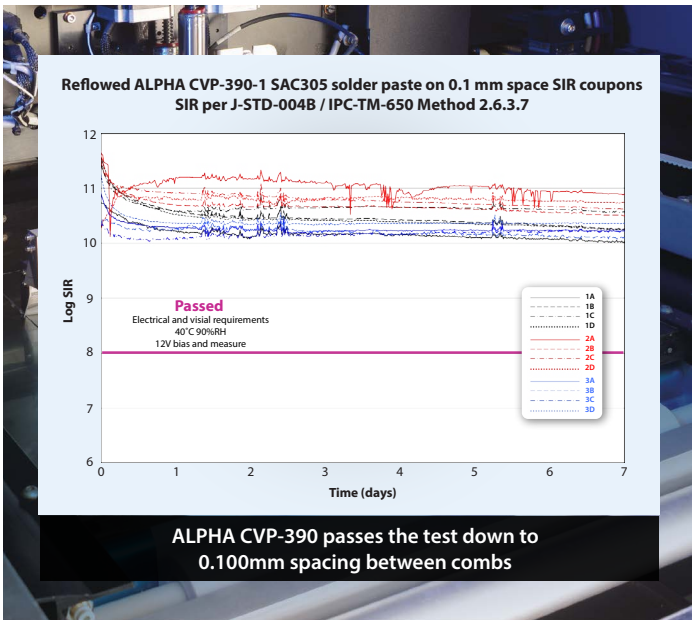
- Assemblies requiring flexibility across multiple component types.
- High reliability applications requiring excellent electrochemical reliability on fine pitch components.
- Assemblies requiring fine feature printability and increased manufacturing throughput.



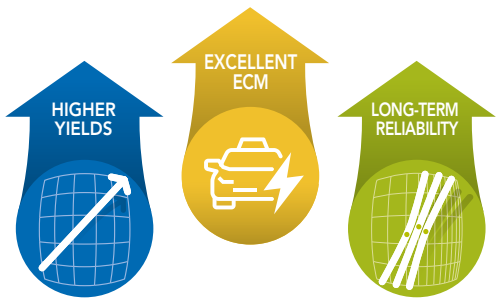
ALPHA CVP-390 ensures electrochemical reliability on fine pitched components. There is no dendritic growth between 0.100mm spaced combs.

KEY FEATURES

- Excellent electrochemical reliability down to 0.100mm spacing on challenging automotive condensing profiles.
- Wide reflow process window, capable of 175-180°C soak for 60 seconds.
- Coalescence on 180µm paste deposit sizes.
- Reduced head-in-pillow defects.
- Exceeds IPC 7905 Class III Voids for soak profile and low voiding on large areas deposits.
- Compatible with SAC305, low Ag SACX® Plus alloys, and Innolot high reliability alloys.



ALPHA CVP-390 passes the test down to 0.100mm spacing between combs



* Zero-Halogen is defined as no halogen intentionally added to the formulation.

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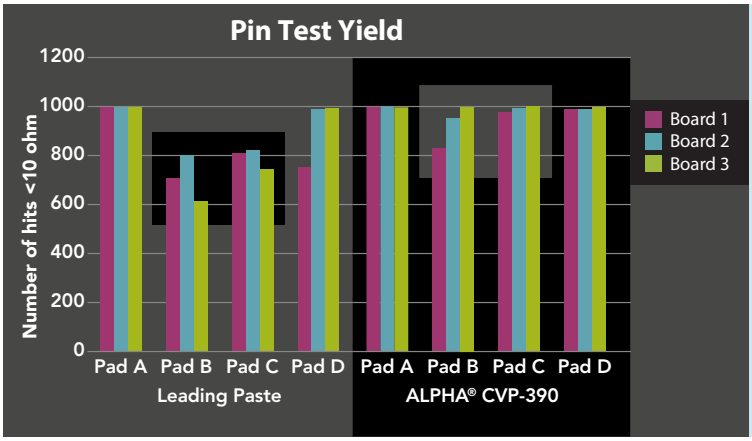

ALPHA CVP-390 provides:

- ✓ Excellent fine feature printability
- ✓ High electrochemical reliability
- ✓ Increased operational throughput while enhancing reliability
- ✓ Reduced rework

PERFORMANCE SUMMARY

PROCESS BENEFITS	PROPERTIES	PERFORMANCE CAPABILITIES
Print Process Window	Fine feature print definition	Excellent print definition and consistent volumetric performance to 0.3mm (12 mil) • down to 180µm (8mil) diameter • 0.4mm (16mil) pitch QFP • Min area ratio of 0.6
	Temperature window	Capable of printing in temperatures form 20-32°C (68-90°F)
	Tack/stencil life	Long stencil life of at least 8 hours of continuous printing
	Squeegee pressure	0.21-0.36 kg/cm of blade
	Print speed range	Wide process window from 25-150mm/sec (1-6"/sec)
Reflow Yield	Peak reflow temperature	235 to 245°C (optimal recommended: <240°C)
	Resistance to voids	Meet IPC 7905 Class III requirements
	Resistance to cold and hot slump	Preferred J-STD-004A and JIS Level 2
	Flux residue cosmetics	Clear
	Solder spread	80%
	Random solderballs	Preferred J-STD-004A and JIS Level 2
	Flux residue characteristics	Pin testable and passes JIS Cu corrosion test
Electrical Reliability	SIR	Meets/exceeds JIS, J-STD-004B and Bellcore requirements, and automotive damp heat profiles.
	Electromigration resistance	Meets/exceeds JIS, Bellcore
	Halide content	Halide free
	J-STD-004B classification	ROL0
Environmental	Halogen content	Zero-Halogen, no halogen intentionally added

MacDermid Alpha ELECTRONICS SOLUTIONS

macdermidalpha.com
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Alpha is a product brand of MacDermid Alpha Electronics Solutions.

For more information, contact us at Assembly@MacDermidAlpha.com