



**CONSUMER  
MATERIAL SOLUTIONS**

# CONSUM



Alpha's mission is to be the industry's preferred supplier of **high-performance materials** and chemistry. We accomplish this by delivering **leading technology and value**, made possible by our **innovative products, processes and people**. For meeting requirements of today's assemblies and for tomorrow's challenges, Alpha is the right choice for your material supply.

# ER

Today's consumer products require increased connectivity with their devices and smart learning features while maintaining the lowest total cost of ownership. Alpha's products enable consumer products to become more functional while also lowering their total manufacturing cost.



Whitegoods



Displays



Lighting/LED



Others (Audio/Video/Toys, etc.)



Whitegoods

Electronic assemblies used in these products are becoming more complex in their design and require flexibility in processing. The products Alpha provides for this sub-market can be used in a wide variety of process conditions and enable fast throughput with high yields while also offering the lowest total cost of ownership.

**Key Requirements:**

- High performance under wide process conditions
- Excellent value, lowers total cost of ownership
- High mechanical and electrochemical reliability

CONSUMER: Whitegoods

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE
SMT – Printing and Dispensing	Solder Paste	<b>ALPHA® OM-358 SAC305</b> <ul style="list-style-type: none"> <li>• Ultralow voiding including bottom terminated components</li> <li>• Excellent electrochemical reliability on bottom terminated components</li> <li>• Good thermal cycling performance at temperatures &lt;105°C</li> </ul>			
		<b>ALPHA® CVP-390 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Wide reflow process window</li> <li>• Fine feature printability down to 01005 feature size</li> <li>• Broad latitude paste for ultimate flexibility in manufacturing</li> <li>• Available in low silver SACX Plus alloy(s) for improved value</li> </ul>			
		<b>ALPHA® OM-353 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Repeatable printing down to 0.3mm/.012" pitch and 01005 passives</li> <li>• Lowest post reflow residue spread of Alpha's chemistries</li> <li>• Low HIP and NWO Defects</li> <li>• Available in low silver SACX Plus alloy(s) for improved value</li> </ul>			
		<b>ALPHA® OM-550 HRL1</b> <ul style="list-style-type: none"> <li>• Best mechanical performance of Alpha's low temperature solder alloys</li> <li>• Repeatable printing down to 0.3mm/.012" pitch and 01005 passives</li> <li>• Significant reduction in warpage-induced defects such as HIP and NWO</li> </ul>			
SMT – Jetting	Solder Paste	<b>ALPHA® JP-510 SAC305</b> <ul style="list-style-type: none"> <li>• Jettable to 0.5mm/.020" pitch</li> <li>• High mechanical and electrochemical reliability</li> </ul>			
		<b>ALPHA® JP-501 SnBiAg</b> <ul style="list-style-type: none"> <li>• Low HIP and NWO Defects</li> <li>• Jettable to 0.5mm/.020" pitch</li> </ul>			
SMT / PTH – Pick and Place	Preforms	<b>ALPHA® BTC-578 Accuflux Preforms</b> <i>Innot / SAC305 / Low-temp</i> <ul style="list-style-type: none"> <li>• Increasing thermal conductivity and heat dissipation through void reduction</li> <li>• Low flux residue improves electrochemical reliability</li> <li>• Prevents mechanical stackup issues through increased solder volume</li> </ul>			
		<b>ALPHA® Tape and Reel Preforms</b> <ul style="list-style-type: none"> <li>• High solder volume precision and production yields using pick and place</li> <li>• Available in many alloys, sizes and shapes</li> <li>• Flux coated versions available (*some fluxes contain halogens)</li> </ul>			*
SMT / PTH – Point Soldering, Rework and Repair	Cored Wire	<b>ALPHA® Telecore® HF-850 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Performs well with all standard pad finishes</li> <li>• Can be used in both robotic and manual soldering processes</li> <li>• ROLO</li> </ul>			
		<b>ALPHA® Telecore® XL-825 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Best for difficult to solder surfaces</li> <li>• Can be used in both robotic and manual soldering processes</li> <li>• ROL1</li> </ul>			

## CONSUMER: Whitegoods continued

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE	VOC FREE
SMT – Dispensing	Adhesive	<b>ALPHA® HiTech™ SM42-1311</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
		<b>ALPHA® HiTech™ SM42-120P</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
PTH – Wave / Selective Soldering	Bar and Solid Wire Solder	<b>ALPHA® SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Low Silver (0.3%) for improved value vs. SAC305</li> <li>• Low Copper dissolution and low drossing</li> <li>• Excellent for most standard assemblies</li> </ul>				
		<b>ALPHA® SnCX Plus 07</b> <ul style="list-style-type: none"> <li>• Silver free for best value of SnCu alloys</li> <li>• Low Copper dissolution and low drossing</li> </ul>				
	Liquid Flux	<b>ALPHA® EF-2210</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• VOC free</li> </ul>				
		<b>ALPHA® EF-6000</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• High activity, rosin-free formula can be cleaned with DI water</li> </ul>				
		<b>ALPHA® EF-6103</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004B</li> <li>• Best for selective soldering processes</li> </ul>				
		<b>ALPHA® EF-9301</b> <ul style="list-style-type: none"> <li>• ROM1</li> <li>• Passes IPC J-STD-004A</li> <li>• Excellent for common boards</li> </ul>				
		<b>ALPHA® SLS-65C</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• Low residue, moderate activity</li> </ul>				



Displays

Improving the user's viewing experience is driving enhancements in display technology. Alpha's products contribute to maximizing display responsiveness and clarity and are able to be used in a wide variety of process conditions enabling fast throughput with high yields while also offering the lowest total cost of ownership.

**Key Requirements:**

- High thermal and electrical conductivity
- Performs well under wide process conditions
- Excellent value, lowers total cost of ownership
- High mechanical and electrochemical reliability

**CONSUMER: Displays**

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE
SMT – Printing and Dispensing	Solder Paste	<b>ALPHA® OM-358 SAC305</b> <ul style="list-style-type: none"> <li>• Ultralow voiding including bottom terminated components</li> <li>• Excellent electrochemical reliability on bottom terminated components</li> <li>• Good thermal cycling performance at temperatures &lt;105°C</li> </ul>			
		<b>ALPHA® CVP-390 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Wide reflow process window</li> <li>• Fine feature printability down to 01005 feature size</li> <li>• Broad latitude paste for ultimate flexibility in manufacturing</li> <li>• Available in low silver SACX Plus alloy(s) for improved value</li> </ul>			
		<b>ALPHA® OM-353 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Repeatable printing down to 0.3mm/.012" pitch and 01005 passives</li> <li>• Lowest post reflow residue spread of Alpha's chemistries</li> <li>• Low HIP and NWO Defects</li> <li>• Available in low silver SACX Plus alloy(s) for improved value</li> </ul>			
		<b>ALPHA® OM-550 HRL1</b> <ul style="list-style-type: none"> <li>• Best mechanical performance of Alpha's low temperature solder alloys</li> <li>• Repeatable printing down to 0.3mm/.012" pitch and 01005 passives</li> <li>• Significant reduction in warpage-induced defects such as HIP and NWO</li> </ul>			
SMT – Jetting	Solder Paste	<b>ALPHA® JP-510 SAC305</b> <ul style="list-style-type: none"> <li>• Jettable to 0.5mm/.020" pitch</li> <li>• High mechanical and electrochemical reliability</li> </ul>			
		<b>ALPHA® JP-501 SnBiAg</b> <ul style="list-style-type: none"> <li>• Low HIP and NWO Defects</li> <li>• Jettable to 0.5mm/.020" pitch</li> </ul>			
SMT / PTH – Pick and Place	Preforms	<b>ALPHA® BTC-578 Accuflux Preforms</b> <i>Innolot / SAC305 / Low-temp</i> <ul style="list-style-type: none"> <li>• Increasing thermal conductivity and heat dissipation through void reduction</li> <li>• Low flux residue improves electrochemical reliability</li> <li>• Prevents mechanical stackup issues through increased solder volume</li> </ul>			
		<b>ALPHA® Tape and Reel Preforms</b> <ul style="list-style-type: none"> <li>• High solder volume precision and production yields using pick and place</li> <li>• Available in many alloys, sizes and shapes</li> <li>• Flux coated versions available (*some fluxes contain halogens)</li> </ul>			
SMT / PTH – Point Soldering, Rework and Repair	Cored Wire	<b>ALPHA® Telecore® HF-850 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Performs well with all standard pad finishes</li> <li>• Can be used in both robotic and manual soldering processes</li> <li>• ROL0</li> </ul>			
		<b>ALPHA® Telecore® XL-825 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Best for difficult to solder surfaces</li> <li>• Can be used in both robotic and manual soldering processes</li> <li>• ROL1</li> </ul>			

## CONSUMER: Displays continued

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE	VOC FREE
SMT – Dispensing	Adhesive	<b>ALPHA® HiTech™ AD43-9600W</b> <ul style="list-style-type: none"> <li>• Good adhesion on FR4 and PMMA lens</li> <li>• Fast curing enabling high throughput manufacturing</li> <li>• White coloring eliminates ‘flaring’ during initial LED illumination</li> </ul>				
		<b>ALPHA® HiTech™ SM42-1311</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
SMT – Printing	Adhesive	<b>ALPHA® HiTech™ SM42-120P</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
PTH – Wave / Selective Soldering	Bar and Solid Wire Solder	<b>ALPHA® SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Low Silver (0.3%) for improved value vs. SAC305</li> <li>• Low Copper dissolution and low drossing</li> <li>• Excellent for most standard assemblies</li> </ul>				
		<b>ALPHA® SnCX Plus 07</b> <ul style="list-style-type: none"> <li>• Silver free for best value of SnCu alloys</li> <li>• Low Copper dissolution and low drossing</li> </ul>				
	Liquid Flux	<b>ALPHA® EF-2210</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• VOC free</li> </ul>				
		<b>ALPHA® EF-6000</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• High activity, rosin-free formula can be cleaned with DI water</li> </ul>				
		<b>ALPHA® EF-6103</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004B</li> <li>• Best for selective soldering processes</li> </ul>				
		<b>ALPHA® EF-9301</b> <ul style="list-style-type: none"> <li>• ROM1</li> <li>• Passes IPC J-STD-004A</li> <li>• Excellent for common boards</li> </ul>				
		<b>ALPHA® SLS-65C</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• Low residue, moderate activity</li> </ul>				



Alpha has the expertise to optimize the LED industry's technology drivers of cost per lumen, efficiency, brightness, and reliability over lifetime. Our value-adding product solutions positively impact each key step of the LED manufacturing process, from package on board through to the assemblies of the luminaire, power drive, and controls.

**Key Requirements:**

- High mechanical reliability
- High value, lowers total cost per lumen
- Maximizes light output with minimal degradation over time
- Transparent and minimal residues

**CONSUMER: Lighting/LED**

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE
SMT – Printing and Dispensing	Solder Paste	<b>ALPHA® CVP-390 Innolot / SAC305</b> • Excellent electrochemical reliability down to 0.100mm spacing • Fine feature printability down to 01005 feature size • Highest thermo-mechanical reliability at temperatures above 120°C (Innolot)			
		<b>ALPHA® OM-353 Innolot / SAC305</b> • Lowest post reflow residue spread of Alpha's chemistries • Excellent electrochemical reliability down to 0.200mm spacing • Highest thermo-mechanical reliability at temperatures above 120°C (Innolot)			
		<b>ALPHA® OM-358 Innolot / SAC305</b> • Ultralow voiding on bottom terminated components • Excellent electrochemical reliability on bottom terminated components • Highest thermo-mechanical reliability at temperatures above 120°C (Innolot)			
		<b>ALPHA® OM-550 HRL1</b> • Best mechanical performance of Alpha's low temperature solder alloys • Repeatable printing down to 0.3mm/.012" pitch and 01005 passives • Significant reduction in warpage-induced defects			
SMT / PTH – Pick and Place	Preforms	<b>ALPHA® BTC-578 Accuflux Preforms Innolot / SAC305 / Low-temp</b> • Increasing thermal conductivity and heat dissipation through void reduction • Low flux residue improves electrochemical reliability • Prevents mechanical stackup issues through increased solder volume			
		<b>ALPHA® Tape and Reel Preforms</b> • High solder volume precision and production yields using pick and place • Available in many alloys, sizes and shapes • Flux coated versions available (*some fluxes contain halogens)			
SMT / PTH – Point Soldering, Rework and Repair	Cored Wire	<b>ALPHA® Telecore® HF-850 Innolot / SAC305</b> • Performs well with all standard pad finishes • Can be used in both robotic and manual soldering processes • ROL0			
		<b>ALPHA® Telecore® XL-825 SAC305</b> • Best for difficult to solder surfaces • Can be used in both robotic and manual soldering processes • ROL1			
SMT – Dispensing	Adhesive	<b>ALPHA® HiTech™ AD43-9600W</b> • Good adhesion on FR4 and PMMA lens • Fast curing enabling high throughput manufacturing • White coloring eliminates 'flaring' during initial LED illumination			
		<b>ALPHA® HiTech™ SM42-1311</b> • Non-Sagging • Excellent adhesion on FR4 • Resists change due to high heat post application processing (i.e., wave soldering)			

## CONSUMER: Lighting/LED continued

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE
SMT – Printing	Adhesive	<b>ALPHA® HiTech™ SM42-120P</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>			
PTH – Wave / Selective Soldering	Bar and Solid Wire Solder	<b>ALPHA® SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Low Silver (0.3%) for improved value vs. SAC305</li> <li>• Low Copper dissolution and low drossing</li> <li>• Excellent for most standard assemblies</li> </ul>			
		<b>ALPHA® SnCX Plus 07</b> <ul style="list-style-type: none"> <li>• Silver free for best value of SnCu alloys</li> <li>• Low Copper dissolution and low drossing</li> </ul>			
	Liquid Flux	<b>ALPHA® EF-6103</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004B</li> <li>• Best for selective soldering processes</li> </ul>			
		<b>ALPHA® EF-6808HF</b> <ul style="list-style-type: none"> <li>• ROLO</li> <li>• Passes IPC J-STD-004B</li> <li>• Excellent for most standard complexity assemblies</li> </ul>			



Others  
(Audio/Video/Toys,  
etc.)

Consumer electronic devices are becoming more and more complex in our ever connected world. From bluetooth to wired and wireless interfaces, or smart learning functionality to face, voice and fingerprint identification, even the most basic equipment is using some type of advanced technology.

**Key Requirements:**

- High performance under wide process conditions
- Excellent value, lowers total cost of ownership
- High mechanical and electrochemical reliability

**CONSUMER: Others (Audio/Video/Toys, etc.)**

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE
SMT – Printing and Dispensing	Solder Paste	<b>ALPHA® OM-358 SAC305</b> <ul style="list-style-type: none"> <li>• Ultralow voiding including bottom terminated components</li> <li>• Excellent electrochemical reliability on bottom terminated components</li> <li>• Good thermal cycling performance at temperatures &lt;105°C</li> </ul>			
		<b>ALPHA® CVP-390 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Wide reflow process window</li> <li>• Fine feature printability down to 01005 feature size</li> <li>• Broad latitude paste for ultimate flexibility in manufacturing</li> <li>• Available in low silver SACX Plus alloy(s) for improved value</li> </ul>			
		<b>ALPHA® OM-353 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Repeatable printing down to 0.3mm/.012" pitch and 01005 passives</li> <li>• Lowest post reflow residue spreads of Alpha's chemistries</li> <li>• Low HIP and NWO Defects</li> <li>• Available in low silver SACX Plus alloy(s) for improved value</li> </ul>			
		<b>ALPHA® OM-550 HRL1</b> <ul style="list-style-type: none"> <li>• Best mechanical performance of Alpha's low temperature solder alloys</li> <li>• Repeatable printing down to 0.3mm/.012" pitch and 01005 passives</li> <li>• Significant reduction in warpage-induced defects such as HIP and NWO</li> </ul>			
SMT – Jetting	Solder Paste	<b>ALPHA® JP-510 SAC305</b> <ul style="list-style-type: none"> <li>• Jettable to 0.5mm/.020" pitch</li> <li>• High mechanical and electrochemical reliability</li> </ul>			
		<b>ALPHA® JP-501 SnBiAg</b> <ul style="list-style-type: none"> <li>• Low HIP and NWO Defects</li> <li>• Jettable to 0.5mm/.020" pitch</li> </ul>			
SMT / PTH – Pick and Place	Preforms	<b>ALPHA® BTC-578 Accuflux Preforms</b> <i>Innotot / SAC305 / Low-temp</i> <ul style="list-style-type: none"> <li>• Increasing thermal conductivity and heat dissipation through void reduction</li> <li>• Low flux residue improves electrochemical reliability</li> <li>• Prevents mechanical stackup issues through increased solder volume</li> </ul>			
		<b>ALPHA® Tape and Reel Preforms</b> <ul style="list-style-type: none"> <li>• High solder volume precision and production yields using pick and place</li> <li>• Available in many alloys, sizes and shapes</li> <li>• Flux coated versions available (*some fluxes contain halogens)</li> </ul>			
SMT / PTH – Point Soldering, Rework and Repair	Cored Wire	<b>ALPHA® Telecore® HF-850 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Performs well with all standard pad finishes</li> <li>• Can be used in both robotic and manual soldering processes</li> <li>• ROL0</li> </ul>			
		<b>ALPHA® Telecore® XL-825 SAC305 / SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Best for difficult to solder surfaces</li> <li>• Can be used in both robotic and manual soldering processes</li> <li>• ROL1</li> </ul>			

CONSUMER: Others (Audio/Video/Toys, etc.) continued

APPLICATION	PRODUCT TYPE	PRODUCT	LOW TEMP	PB FREE	HALOGEN FREE	VOC FREE
SMT – Dispensing	Adhesive	<b>ALPHA® HiTech™ SM42-1311</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
		<b>ALPHA® HiTech™ SM42-120P</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
SMT – Printing	Adhesive	<b>ALPHA® HiTech™ SM42-120P</b> <ul style="list-style-type: none"> <li>• Non-Sagging</li> <li>• Excellent adhesion on FR4</li> <li>• Resists change due to high heat post application processing (i.e., wave soldering)</li> </ul>				
PTH – Wave / Selective Soldering	Bar and Solid Wire Solder	<b>ALPHA® SACX Plus 0307</b> <ul style="list-style-type: none"> <li>• Low Silver (0.3%) for improved value vs. SAC305</li> <li>• Low Copper dissolution and low drossing</li> <li>• Excellent for most standard assemblies</li> </ul>				
		<b>ALPHA® SnCX Plus 07</b> <ul style="list-style-type: none"> <li>• Silver free for best value of SnCu alloys</li> <li>• Low Copper dissolution and low drossing</li> </ul>				
	Liquid Flux	<b>ALPHA® EF-2210</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• VOC free</li> </ul>				
		<b>ALPHA® EF-6000</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• High activity, rosin-free formula can be cleaned with DI water</li> </ul>				
		<b>ALPHA® EF-6103</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004B</li> <li>• Best for selective soldering processes</li> </ul>				
		<b>ALPHA® EF-9301</b> <ul style="list-style-type: none"> <li>• ROM1</li> <li>• Passes IPC J-STD-004A</li> <li>• Excellent for common boards</li> </ul>				
		<b>ALPHA® SLS-65C</b> <ul style="list-style-type: none"> <li>• ORLO</li> <li>• Passes IPC J-STD-004A</li> <li>• Low residue, moderate activity</li> </ul>				



**For more information on Alpha's  
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