



Cookson Electronics ASSEMBLY MATERIALS

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ALPHA

Stencils  
Solder Paste

Cleaners

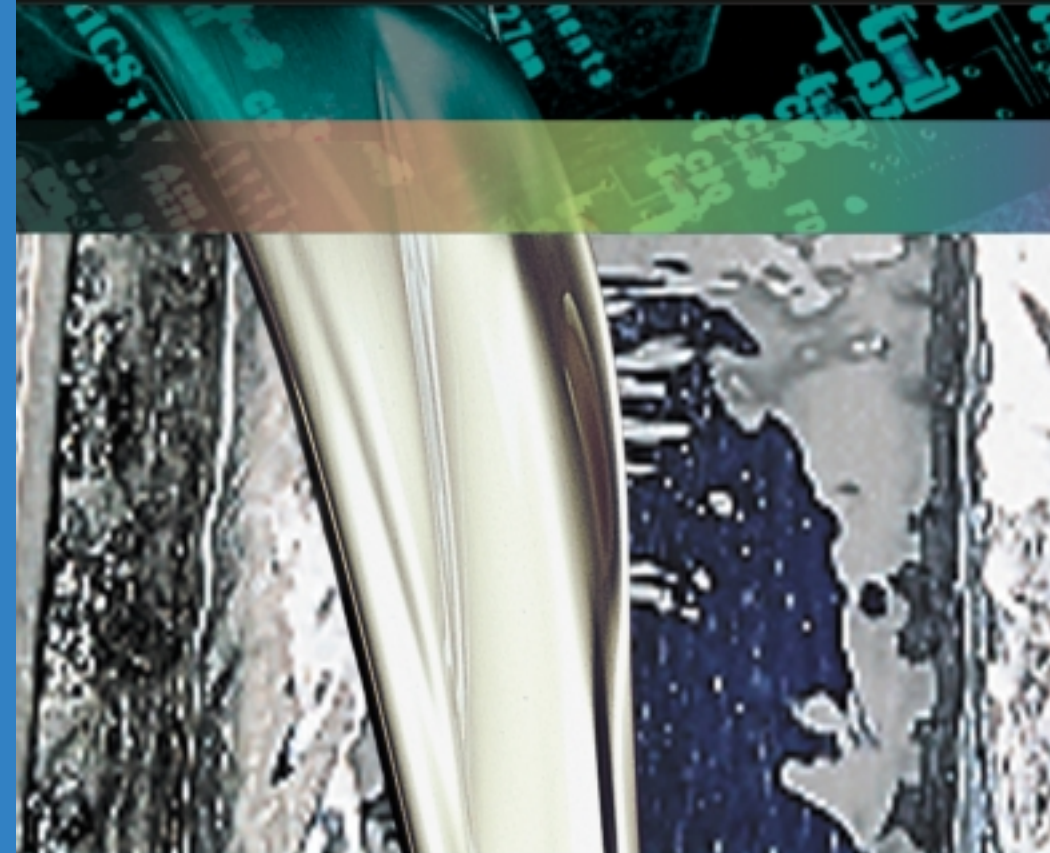
Flux

Solder Metals  
Reclaim

Cored Wire  
Preforms

Underfills  
Adhesives

ENABLING TECHNOLOGY LEADERSHIP



# ALPHA SOLDER METALS



Cookson Electronics ASSEMBLY MATERIALS



## Best Value, High Purity Wavesolder Metals

Cookson Electronics has a world class range of high purity soldering products designed to give defect free wave soldering whether conventional or lead-free technologies are used.

ALPHA wave soldering metals offer best value soldering performance – quality products at the lowest cost of ownership, and thanks to a global copy exact product policy, consistency of supply is assured.

- High purity.
- Excellent solderability.
- Good wetting.
- Low oxides, low drossing.
- Solder bar, chunks, anodes, preforms and solid wires.
- VACULOY® alloy conditioning process.

### LEAD-FREE SOLDERING

Cookson Electronics has a comprehensive range of industry standard and patented alloy technologies for lead-free wave soldering.

Agreements have been signed with Iowa State University Research Foundation (ISURF) for its Sn/Ag/Cu US patent; Senju Corporation's Sn/Ag/Cu patent; the Oatey Company's Sn/Ag/Bi/Cu Safeflo® alloy; and the AIM Inc, Sn/Ag/Cu/Sb Castin™ alloy. These lead-free alloys complement the existing ALPHA range of high performance joining materials.

### ALPHA HI-FLO SMG

Refined through a 2-stage alloy conditioning process for maximum fluidity on fine pitch applications. Ultra low dross solder for all high volume wave soldering processes.

- Very low dross; reduced skips, bridges and icicling.
- Ideal for densely populated boards.
- Increased production speeds and yield improvements.
- Reduced solder pot maintenance.
- Fine pitch soldering.

### ALPHA VACULOY®

The patented VACULOY® alloy conditioning process removes trapped oxides naturally found in high purity materials to give extremely low levels of non-metallic and metallic contaminants. Produced from quality highly refined materials for defect free soldering.

- Good wetting, high fluidity.
- Reduced product usage.
- Low fillets.
- Bright joints - easy inspection.

### ALPHA CLEANWAVE

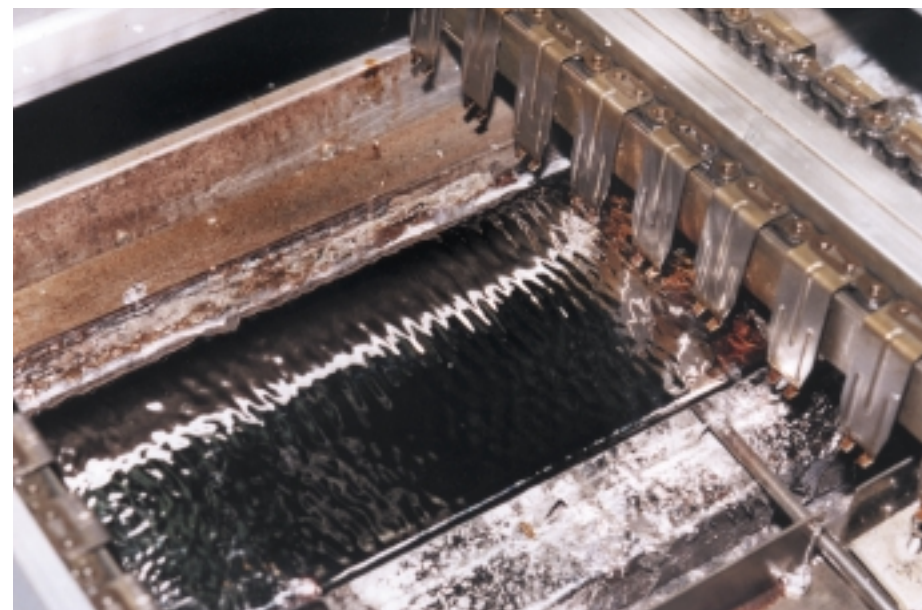
A cost effective, general purpose wave soldering product that gives excellent soldering performance with strong, bright joints at an economical price. Meets all leading industry specifications and ideal for all less demanding wave soldering applications.

### ALPHA VACULOY® Lead-free

ALPHA VACULOY® Lead-free solder is a high purity joining material available in a choice of popular industry standard alloys including SAC305, SAC300, SAC405, SAC400, SA2515 and SA2510.



Ultra high purity grade also available.



ALPHA Wave Solder Metals mean cost effective performance

### Maximum Impurity Levels\*

(\*SnPb alloys only)

	ALPHA HI-FLO SMG	ALPHA VACULOY®	ALPHA CLEANWAVE
Alloy Conditioning Process	Hi-Flo Process plus Vaculoy Process	Vaculoy Process	None
Impurities			
Sb	0.05%	0.12%	0.12%
Cu	0.005%	0.05%	0.05%
Zn	0.001%	0.001%	0.001%
Fe	0.001%	0.01%	0.01%
As	0.005%	0.01%	0.01%
Ni	0.002%	0.01%	0.01%
Bi	0.005%	0.10%	0.10%
Cd	0.001%	0.001%	0.001%
Al	0.001%	0.001%	0.001%
In	0.005%	0.05%	0.05%
Industry Standards	ISO 9453 alloy 1a JIS-Z-3282 E alloy H63 J-Std-006A Sn63Pb37C	ISO 9453 alloy 1 JIS-Z-3282 A alloy H63A J-Std-006A Sn63Pb37B	ISO 9453 alloy 1 JIS-Z-3282 A alloy H63A J-Std-006A Sn63Pb37B

\*Alloy 63Sn37Pb melting temperature 183°C

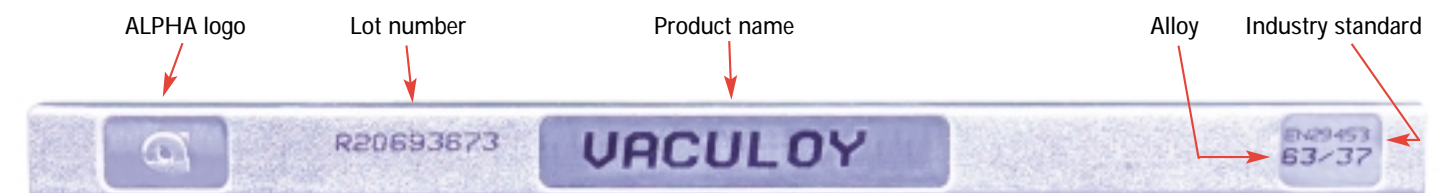
Lead Free Alloy	Constituents %					Solidus - Liquidus Temp °C	Density g/cm³	TCE micrometers/M/C	Hardness HV	Specific Heat Capacity J/g K
	Sn	Ag	Cu	Bi	Pb Max					
SAC305	96.5	3.0	0.5	-	0.20	217-219	7.37	21.9	14.1	0.232
SAC405	95.5	4.0	0.5	-	0.20	217-219	7.44	21.4	14.9	0.236
High Purity SAC305	96.5	3.0	0.5	-	0.10	217-219	7.37	21.9	14.1	0.232
High Purity SAC405	95.5	4.0	0.5	-	0.10	217-219	7.44	21.4	14.9	0.236
SA2515	96.0	2.5	0.5	1.0	0.10	213-221	7.40	21.8	16.6	0.231
* Reference 63Sn/37Pb	63.0	-	-	-	37.0	183	8.41	24.0	12.8	0.150

### EASY IDENTIFICATION

ALPHA solder bars are ink jet printed with all necessary information (alloy, lot number, item number, description) to

allow 100% traceability and quality control. Lead-free bars are ink jet printed in green for immediate, easy

recognition and to prevent mix-up during changeover to lead-free soldering.



### AVAILABILITY

ALPHA quality wave solder metal is available in a choice of options to suit your process requirements.

Solder bars (1 & 3.5kg), solid wire for automatic feed, chunks, preforms and anodes.

For best results always use a compatible ALPHA flux, available in a choice of solids content and activator levels, with water washable, no-clean and VOC-free option.

FOR DETAILS OF THE RANGE OF POPULAR ALPHA FLUXES, CORED WIRE, CLEANING MATERIALS AND RECLAIM SERVICES PLEASE REFER TO INDIVIDUAL PRODUCT LEAFLETS.