

# ALPHA<sup>®</sup> SACX<sup>®</sup> PLUS 0107 / SACX PLUS 0100

## Lead Free Wave Solder Metal

### DESCRIPTION

**ALPHA SACX Plus 0107** is a lead-free alloy suitable for use as a replacement for Sn63 alloy in the wave solder process. The **SACX Plus 0100** variant is used to stabilize / reduce the copper content in the wave solder bath, this requirement will depend on process conditions. As with all Alpha Metals bar solder, Alpha's proprietary Vaculoy alloying process is used to remove certain impurities, particularly oxides. The product is further enhanced with the addition of 3 minor elements to reduce dross formation, improve the joint cosmetics and hole fill.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

#### Features:

- YIELD FR2 boards – Comparable to original SACX 0307, superior performance for bridging compared to Sn99.3/Cu0.7/Ni based alloys
- PRICE – Lower unit price due to reduction in Silver content
- DROSS GENERATION – Equivalent to original SACX 0307
- COPPER DISSOLUTION – Equivalent to original SACX 0307

#### Benefits:

- Lowers Total Cost of Ownership due to the lower material cost, high yields and low dross generation, suited for FR2 assemblies
- Gives very good solderability due to the fast wetting speed
- Gives very good drainage and hence lower levels of bridges due to the formulation containing Silver
- Delivers good performance across a range of flux technologies

The proprietary Vaculoy process is a highly effective method for removing included oxides from solder. This is extremely important because included oxides generate excessive drossing and increase the viscosity of the solder. Solder with higher viscosity can result in increased soldering defects (i.e., solder bridging).

**APPLICATION GUIDELINES**

ALPHA SACX Plus 0107 is suitable for wave soldering and selective soldering for electronic assemblers interested in implementing a lead-free process. It is suited to single side boards. A solder pot temperature of 255 to 265 °C (491 to 509 °F) is recommended with a contact time 2.3 to 3.5 seconds. For suitable wave solder fluxes, contact your local sales representative. Lead free Reclaim services including dedicated lead-free containers are also available; please consult your local Alpha sales office.

**AVAILABILITY**

ALPHA SACX Plus 0107 is available in 1kg (2.2lb) bar, chunks, Feeder Ingots and Autofeed Wire.

**TECHNICAL SPECIFICATION**

Complies with all requirements of RoHS Directive (Article 4.1 of the European Directive 2011/65/EU). Alloy specification for Maximum Lead (Pb) Content = 0.07%. SACX Plus 0107 is also available in an Ultra-Low Lead (ULL) version which contains a maximum of 0.05% Pb. All alloy properties remain the same for SACX Plus 0107 ULL.

Material Property	Units	SACX Plus 0107
Solidus	Celsius	217
Liquidus	Celsius	228
Silver Content	%	0.1 + 0.02 +/-0.02
Copper Content	%	0.70 +/-0.1
Lead Content	%	Max 0.07%

**RECOMMENDED WAVE PROCESSING SETTINGS**

Wave Configuration	Process Parameter	Suggested Process Settings
Single Wave	Pot temperature	255 to 265 °C (491 to 509 °F)
	Conveyor speed	1.0 to 1.5 m/min (3.3 to 5 ft/min)
	Contact time	2.3 to 2.8 seconds
	Wave Height	1/2 to 2/3 of board thickness
	Dross removal	Once per 8 hour run time
	Copper Check	Every 8,000 boards until 40,000
Dual Wave	Pot temperature	255 to 265 °C (491 to 509 °F)
	Conveyor speed	1.0 to 1.5 m/min (3.3 to 5 ft/min)
	Contact time	3.0 to 3.5 seconds
	Wave Height	1/2 to 2/3 of board thickness
	Dross removal	Once per 8 hour run time
	Copper Check	Every 8,000 boards until 40,000

**RECYCLING SERVICES**

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams. Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or [link here](#).



**SAFETY & WARNING**

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available at [MacDermidAlpha.com/assembly-solutions/knowledge-base](http://MacDermidAlpha.com/assembly-solutions/knowledge-base).**

**CONTACT INFORMATION**

**To confirm this document is the most recent version, please contact [Assembly@MacDermidAlpha.com](mailto:Assembly@MacDermidAlpha.com)**

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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