ALPHA® VACULOY® SAC 100, 105

Lead-Free Alloy

DESCRIPTION

ALPHA Vaculoy SAC 105 solder alloy is suitable for use in most lead free wave and selective solder processes. The **ALPHA Vaculoy SAC 100** replenishment alloy is sometimes used to stabilize and reduce the copper content in the wave solder bath, although, this requirement will depend on process conditions.

As with all Alpha bar solder, Alpha's proprietary Vaculoy alloying process is used to remove certain impurities, particularly oxides. 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).

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

Features	Benefits
Yield	Best in class yield, outperforms all Sn/Cu based materials
Solderability	Excellent solderability due to fast wetting speed
Dross generation	Low dross generation delivered by Vaculoy alloy conditioning

APPLICATION GUIDELINES

ALPHA Vaculoy SAC105 solder alloy is suitable for wave and selective soldering applications for electronic assemblers interested in implementing a lead-free process. A wave solder pot temperature of >255 °C is recommended. Please adjust the process temperature according to your board density and applications. For suitable wave solder fluxes, please see our website.

TECHNICAL DATA

0.10% of Pb complies with the requirement of RoHS Directive (Article 4.1 of the European Directive 2015/963/EU). Alloy specification for maximum Lead (Pb) Content = 0.07%.

Element	Specification %	
	SAC105	SAC100
Sn	Balance	Balance
Ag	1.0 +0.1 / -0.02	1.0 +0.1 / -0.02
Cu	0.5 ± 0.1	0.05 max
Pb	0.07 max	0.07 max
Sb	0.10 max	0.10 max
Zn	0.001 max	0.001 max
Fe	0.02 max	0.02 max
As	0.03 max	0.03 max
Ni	0.01 max	0.01 max
Bi	0.10 max	0.10 max
Cd	0.001 max	0.001 max
Al	0.001 max	0.001 max
Au	0.05 max	0.05 max
In	0.05 max	0.05 max

All figures are in % for impurity limits per alloy in relation to J-STD-006C.

Material Characteristics

Item `	SAC105 Typical Values
Melting Point (°C)	215 to 227
Density (g/cm^3)	7.32
Thermal Conductivity @ 85 °C (W/mK)	60
Electrical Resistivity @ 20 °C (µΩ-m)	0.133

AVAILABILITY

ALPHA Vaculoy SAC105 is available in 1 kg (2.2lb) Bars, feeder Ingots and auto feed wire.

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.**

STORAGE

Store the solder bar in a cool, dry and non-corrosive environment. Wrap up the solder bar when not in use to reduce exposure to environment.

CONTACT INFORMATION

To confirm this document is the most recent version, please contact Assembly@MacDermidAlpha.com

www.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