

ALPHA[®] INNOLOT SOLDER ALLOY

Designed for High Temperature, High Reliability Applications

DESCRIPTION

ALPHA Innotot Solder Alloy is a lead-free alloy capable of providing reliable interconnection performance at high temperatures whilst under vibration. It improves the mechanical properties, which is not delivered by the standard Tin-Silver-Copper (SAC) alloys working in harsh environment.

ALPHA Innotot Solder Alloy complies with applicable environmental standards, including RoHS for use in products requiring the use of Pb-free material.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

Features for Pb-Free:

- Manufactured using Vaculoy process for improved purity and consistency
- Engineered with specialty additives to deliver high performance

Benefits:

- Excellent thermal fatigue resistance
- Resistance to vibration damage
- Longer service life / lower warranty claims

APPLICATION GUIDELINES

Please refer to the appropriate ALPHA solder paste technical bulletin for specific applications guidance when using ALPHA Innotot Solder Alloy in a paste form.

No formal internal testing or development of the ALPHA Innotot solder alloy was conducted for use in wave and selective soldering processes as it was initially developed and optimized for use in solder paste. Some assemblers have had success using it in a selective soldering process. These users have found it necessary to maintain pot temperatures above 300 °C in order to maintain alloy homogeneity. Solder alloy homogeneity in a molten solder pot is a known concern when using multi-part (5+) alloys. Regular monitoring of the solder pot is recommended to ensure alloy uniformity when using the ALPHA Innotot solder alloy in a selective soldering system.

TECHNICAL DATA

0.10% of Pb complies with the requirement of RoHS Directive (Article 4.1 of the European Directive 2002/95/EC). Alloy specification for maximum Lead (Pb) Content = 0.05%.

Material Property	Units	ALPHA Innolot
Solidus Temperature	Celsius	206
Liquidus Temperature	Celsius	218
Thermal Expansion Coefficient	(30 to 100 °C) ppm/C	22.5
Thermal Conductivity	W/mK	55.2
Ultimate Tensile Strength	(25 °C) MPa	83.0

AVAILABILITY

ALPHA Innolot Solder Alloy is available in 1kg (2.2lb) Bar and Solid Wire (3.0 mm).

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 solid solder in a cool, dry and non-corrosive environment. Wrap up the solid solder 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**

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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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