Lead Free Solder Sn99

4901

BUY NOW

99.3% tin and 0.7% copper

M.G. Chemicals no clean Lead-Free Solder was designed with Sn/Cu (Tin/Copper) alloys as a lead-free alternative for the standard Tin and Lead solder. These alloys conform to the impurity requirements of J-Std-006 and RoHS. Use this solder anywhere you would use normal solder.

If your products might enter Europe, you must ensure they are RoHS compliant now. If your products are sold in California, you must ensure they are compliant by January 1, 2007. Products containing lead solder will not comply. To read more on this issue visit our RoHS Issue AppGuide ›

Features / Benefits

- Lead free
- Complies with RoHS
- Exceeds the impurity requirements of J-Std-006
- No Clean flux
- 21 Gauge, 0.032" diameters
- Excellent wettability
- Hard non-conductive residues

Flux Percentage

M.G. Chemicals Lead Free Solder utilizes a state-of-the-art automatic wire extrusion and wire drawing machines to manufacture consistent solder. The introduction of flux core in the wire extrusion process involves constant monitoring of flux percentage to ensure minimal flux voids and irregular wire. Typical flux percentage for our Lead Free Solder is 2.0-4.0%.

Flux Core

A unique flux system was specifically used for high temperature lead free alloys. It provides the fluxing activity levels that promote fast wetting action and maximum wetting spread. Utilizing synthetically refined resin and very effective activator that wets and spreads like an RA type. This special activator exhibits virtually no spattering. Activator conforms to J-STD-004, REL0. Cleaning Flux core is a no clean formulation therefore the residues do not need to be removed for typical applications. If residue removal is desired, please visit the following link for a list of Flux Removers: http://www.mgchemicals.com/products/fluxrem.html

Specifications

	Test Method	Specification
Cu content		0.3-0.7 %

Sn content		Balance
Flux Classification	JSTD-004	REL0
Copper Mirror	IPC-TM-650 2.3.32	No removal of copper film
Silver Chromate	IPC-TM-650 2.3.33	Pass
Corrosion	IPC-TM-650 2.6.15	Pass
SIR JSTD-004,Pattern Down	IPC-TM-650 2.6.3.3	2.33 x 10^{11} ohms
SIR Bellcore (Telecordia)	Bellcore GR-78-CORE 13.1.3	6.12 x 10^{11} ohms
Electromigration	Bellcore GR-78-CORE 13.1.4	Pass
Post Reflow Flux Residue	TGA Analysis	55%
Acid Value	IPC-TM-650 2.3.13	190-210
Flux Residue Dryness	IPC-TM-650 2.4.47	Pass
Spitting of Flux-Cored Solder	IPC-TM-650 2.4.48	0.3%
Solder Spread	IPC-TM-650 2.4.46	130 mm^2

Lead free/leaded solder comparison	Lead Free Solder (Sn/Cu)	Sn63/Pb37 (Leaded Solder)
Melting Point	227° C (441° F)	183 ° C (361.4 ° F)
Wire Diameter	0.032" (0.81 mm)	0.032" (0.81 mm)
Std. Wire Gauge	21	21
Tolerance, in.	+/- 0.002"	+/- 0.002"
Hardness, Brinell	9HB	14HB
Coefficient of Thermal Expansion	Pure Sn=23.5	24.7
Tensile Strength	3190 psi	4442 psi
Density	7.31 g/cc	8.42 g/cc
Electrical Resistivity	10 - 15 µohm-cm	14.5 µohm-cm
Electrical Conductivity	13 %IACS	11.9 %IACS
Yield Strength, psi	2180	3950
Total Elongation,%	39	48
Joint Shear Strength, at 0.1mm/min 20ºC	23	14
Creep Strength, N/mm^2 at 0.1mm/min 20ºC	8.6	3.3
Creep Strength, N/mm^2 at 0.1mm/min 100 C	2.1	1

Available Sizes

Catalog Number	Sizes Available	Description
4901-112G	1/4 lb (113 g)	Spool
4901-227G	1/2 lb (227 g)	Spool
4901-454G	1 lb (454 g)	Spool
4901-2LB	2 lb (907 g)	Bar