

Sn99.3Cu0.7 SRS Lead Free Solder Alloy



Product Description

Sn99.3Cu0.7 SRS is one of the high-performing, widely used low-cost Pb-free solder available in the industry. It can be used in wave soldering, dipping and HASL applications. It is available in the forms of solder bars and solder wires.

Alloy Composition

Main Composition		IPC J-STD-006B (wt%)
Tin	Sn	Remainder
Copper	Cu	0.7 +/- 0.2
Contamination		
Silver	Ag	0.10 max
Aluminium	Al	0.001 max
Arsenic	As	0.03 max
Bismuth	Bi	0.10 max
Cadmium	Cd	0.002 max
Iron	Fe	0.02 max
Indium	In	0.10 max
Nickel	Ni	0.02 max
Lead	Pb	0.10 max
Antimony	Sb	0.10 max
Zinc	Zn	0.001 max

Specification

Item	Result
Alloy Melting Temperature	227°C
Density	7.30 g/cm ³
<small>DSC at 5°C/min Water Displacement Method</small>	
Mechanical Properties (As-Cast)	
<small>Instron Series IX Automated Materials Test System ASTM E8M (3 mm/min at 23°C)</small>	
Tensile Strength	43.85 MPa
Yield Strength	36.73 MPa
Max Percent Strain	67.19 %
Energy to Break Point	16.95 J
Toughness	24.50 MPa

Application

For wave soldering applications, the solder can be used at 255 – 270°C, depending on PCB design & complexity. Conveyor speed can be set up to a maximum of 1.8 m/min for single-sided boards and recommended to set at between 1.0m/min to 1.6m/min for double-sided boards. Recommended preheat temperature is 90 – 120°C on-board, dependent on flux activation temperature, machine design and board complexity.

For dipping and HASL applications, it is recommended to use at temperatures > 260°C, depending on applications.

Top-up Solder

Control limit for Cu% is 0.5% to 1.0%. Sn99.8Cu0.2 SRS is recommended for top-up purpose when the Cu% is $\geq 0.7\%$ whereas Sn99.3Cu0.7 SRS is recommended for top-up purpose when the Cu% is $< 0.7\%$. Please refer to Asahi technical staffs for more information on the control of Cu% in the solder pot.

Storage

Store the solder alloy in a cool, dry and non-corrosive environment. Wrap up the solder alloy when not in use to reduce exposure to environment. Sn99.3Cu0.7 SRS lead free solder bar and solid wire can be kept for 5 years if proper storage conditions are observed.

Health & Safety

The product when use or handling maybe hazardous to health or environment. Please refer to Material Safety Data Sheet for more information.

Packaging

Solder Bar: 25kg per box, Solid Wire: 20kg per roll (Diameter: 0.25, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.2, 1.6, 2.0 and 3.0 mm). For any other packing requirements, please refer to the sales department.

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