

SCS7 CLF5023

No Clean Core Wire



Product Description

SCS7* is Asahi's latest lead free alloy development. As an enhanced tin/copper lead free alloy, it is highly recommended to directly replace existing SnCu0.7 solder. This alloy not only exhibits the excellent ductility of SnCu0.7 solder, it also possesses superior mechanical strength both in ambient and high temperature environments. SCS7's fatigue resistance is now comparable to tin/lead solder and as such, SCS7 has addressed the fundamental concerns of SnCu alloys.

SCS7 CLF5023 lead free no clean core flux solder wire is formulated using purest raw chemicals together with halide-free materials, which guarantees absolute flux core continuity and consistency in solder properties. It provides excellent instant wetting action and superior solderability on a variety of surface finishes. There are a few options of flux content catered for your specific requirement, ranging from 2.0 to 3.0 ± 0.3 wt%.

Application

SCS7 CLF5023 lead free no clean core flux solder wire is easy to use for automatic, manual, rework, point and brush soldering. For the best soldering results, the recommended parameters are shown:

Solder Iron Tips: All Types especially the tapered types
 Soldering Temp: > 350°C
 Soldering Time: 1 - 3 secs

- Keep solder iron tips clean.
- Tinned iron tips before use.
- Wear gloves when soldering to avoid contaminating the wire.

(Note: Soldering parameters are dependent on tip type, soldering station wattage configuration, wire diameter and type of applications.)

Specification

Item	Result
Alloy Composition	Sn/Cu0.7/Si0.02
Flux Content	2.0 ~ 3.0 ± 0.3 wt%
Density of Core Flux @ 25°C	1.124
Halide Content	Not added
<small>JIS Z 3197 8.1.4.2.1</small> Water Extract Resistivity	> 1 x 10 ⁵ Ω-cm
<small>JIS Z 3197 8.1.1</small> Surface Insulation Resistance (85°C, 85%RH, 168hrs)	> 1 x 10 ⁸ Ω, Pass
<small>IPC-TM-650 2.6.3.3</small> <small>JIS Z 3197 8.5.3</small> Electromigration (85°C, 88.5%RH, 596hrs)	> 1 x 10 ¹¹ Ω, Pass Pass
<small>IPC-TM-650 2.6.14.1</small> Copper Corrosion Test	Pass
<small>IPC-TM-650 2.6.15</small> <small>JIS Z 3197 8.4.1</small> Copper Mirror Test	Classified as "L", Pass
<small>IPC-TM-650 2.3.32</small> <small>JIS Z 3197 8.4.2</small> Flux Activity Classification	ROLO
<small>IPC J-STD-004</small> Spread Factor	> 80% (SCS7)
<small>JIS Z 3197 8.3.1.1</small> Residue Dryness Test	Dry
<small>JIS Z 3197 8.5.1</small> Residue Appearance	Light Yellowish

* World Patent No. 2006/045995 A1

* US Patent No. 7472817

* Japanese Patent No. 4048288

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PHYSICAL PROPERTIES

Melting Temperature	227°C
Coefficient of Thermal Expansion	22.7 $\mu\text{m}/\text{m}^\circ\text{C}$
Density	7.30 g/cm^3

MECHANICAL PROPERTIES (As-Cast) (ASTM E8M 3mm/min at 23°C)

Tensile Strength	45.83 MPa
Yield Strength	38.78 MPa
Max Percent Strain	68.16 %
Energy to Yield Point	0.203 J
Energy to Break Point	18.05 J
Toughness	25.54 MPa
Creep Resistance (Load at 1kg @ 145°C)	> 40hrs

RESIDUAL REMOVAL

Since the residues are light yellowish, minimal, dry, non-tacky and practically inert after soldering, removal is usually not necessary. For assemblies that require cleaning, the residue of SCS7 CLF5023 lead free no clean core flux solder wire can be completely removed by any solvent type flux cleaner available in the market.

STORAGE

Store the solder wire in a cool, dry and non-corrosive environment. Wrap up the solder wire when not in use to reduce exposure to environment. SCS7 CLF5023 lead free no clean core flux solder wire can be kept for 2 years if proper storage conditions are observed.

HEALTH and SAFETY

Wear a chemical mask if the operators are allergic to the fumes released during soldering. For more information, please refer to Material Safety Data Sheet.

PACKAGING

SCS7 CLF5023 lead free no clean core flux solder wire is commonly available in various diameters such as 0.5, 0.6, 0.8, 1.0, 1.2, 1.6 and 2.0 mm. For different diameters, please specify your requirements.

Packaging	0.25kg	0.50kg	1.0kg
Diameter (mm)	0.5 to 2.0	0.5 to 2.0	0.8 to 2.0

DISCLAIMER OF LIABILITY

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