

## SAC305 CLF5160

*No Clean Core Wire*



### Product Description

With the stringent manufacturing process in automotive industries, Asahi has developed a wide range of wires with diverse alloys and flux types to meet the varying requirements of specialised applications. SAC305 CLF5160 Flux activity classification is ROL0 specially develop for automotive industries.

SAC305 CLF5160 lead free no clean core flux solder wire is designed for normal soldering temperature and also high temperature application in manual or auto soldering. The flux residue color will be light yellowish and provides excellent instant wetting action and superior solderability on a variety of surface finishes. It is formulated using purest raw chemicals together with halide-free materials, which guarantees absolute flux core continuity and consistency in solder properties.

### Application

SAC305 CLF5160 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	Sn96.5/Ag3.0/Cu0.5
Alloy Melting Point	217 - 220 °C
DSC at 5°C/min	
Flux Content	2.0   2.5   3.0   3.5   4.0 ± 0.3 wt%
Halide Content	Not Detected
JIS Z 3197 8.1.4.2.1	
Water Extract Resistivity	> 1 x 10 <sup>5</sup> Ω-cm
JIS Z 3197 8.1.1	
Surface Insulation Resistance	
(85°C, 85%RH, 168hrs)	
IPC-TM-650 2.6.3.3	> 1 x 10 <sup>8</sup> Ω, Pass
Electromigration	Pass
(85°C, 88.5%RH, 596hrs)	
IPC-TM-650 2.6.14.1	
Copper Corrosion Test	Pass
IPC-TM-650 2.6.15	
JIS Z 3197 8.4.1	
Copper Mirror Test	Classified as "L", Pass
IPC-TM-650 2.3.32	
JIS Z 3197 8.4.2	
Flux Activity Classification	ROL0
IPC J-STD-004	
Spread Factor	> 75%
JIS Z 3197 8.3.1.1	
Residue Dryness Test	Pass
JIS Z 3197 8.5.1	
Residue Appearance	Light Yellowish & Minimal

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### PHYSICAL PROPERTIES

Melting Temperature	217 - 220 °C
Coefficient of Thermal Expansion	21.5 $\mu\text{m}/\text{m}^{\circ}\text{C}$
Density	7.36 $\text{g}/\text{cm}^3$

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

Tensile Strength	48.548 MPa
Yield Strength	40.808 MPa
Max Percent Strain	57.85 %
Energy to Yield Point	0.122 J
Energy to Break Point	16.347 J
Toughness	23.126 MPa

### RESIDUAL REMOVAL

Since the residues are transparent, minimal, dry, non-tacky and practically inert after soldering, removal is usually not necessary. For assemblies that require cleaning, the residue of SAC305 CLF5160 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. SAC305 CLF5160 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

SAC305 CLF5160 lead free core flux solder wire is commonly available in various diameters such as 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.2, 1.6 and 2.0 mm. For different diameters, please specify your requirements.

Packaging	0.20kg	0.25kg	0.50kg	1.0kg
Diameter (mm)	0.3 & 0.4	0.5 to 2.0	0.5 to 2.0	0.8 to 2.0

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