

SAC305 HCLF490

No Clean Core Wire



Product Description

With implementation of stringent manufacturing process, Asahi has developed a wide range of wires with diverse alloys and flux types to meet the varying requirements of specialised applications.

SAC305 HCLF490 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 even at high temperature yet 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 HCLF490 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

Flux content recommendation:

Manual Soldering : 2.0 - 3.0 ± 0.3 wt%
 Auto Soldering : 3.0 - 4.0 ± 0.3 wt%

- 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
Flux Content	2.0 - 4.0 ± 0.3 wt%
Halide Content	Not Detected
<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	
<small>(85°C, 85%RH, 168hrs)</small>	
<small>IPC-TM-650 2.6.3.3</small>	> 1 x 10 ⁸ Ω, Pass
<small>JIS Z 3197 8.5.3</small>	> 1 x 10 ¹¹ Ω, Pass
Electromigration	Pass
<small>(85°C, 88.5%RH, 596hrs)</small>	
<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 "M", Pass
<small>IPC-TM-650 2.3.32</small>	
<small>JIS Z 3197 8.4.2</small>	
Flux Activity Classification	ROM0
<small>IPC J-STD-004</small>	
Spread Factor	> 75%
<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 & Minimal

SAC305 HCLF490 No Clean Core Wire

PHYSICAL PROPERTIES

Melting Temperature	217 - 220 °C
Coefficient of Thermal Expansion	21.5 $\mu\text{m}/\text{m}^\circ\text{C}$
Density	7.36 g/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 HCLF490 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 HCLF490 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 HCLF490 lead free 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

"All statements, information and recommendations contained in this catalog are based on data and test results which we consider, to the best of our knowledge and belief, to be reliable and informative to the users but the accuracy and completeness thereof is not guaranteed. No warranty, expressed or implied, statutory or otherwise, is given regarding the use of the information and products contained in this catalog since the conditions and suitability for use, handlings, storage or possession of the products are determined by the users and are therefore beyond our control. We shall not be liable in respect of any liabilities, losses (including consequential losses), damages, proceedings, costs, claims or injuries whatsoever sustained or suffered by the users (including any third parties) in connection with the use of the information, recommendation and the products contained in this catalog."

Singapore Asahi Chemical and Solder Industries Pte Ltd
 47 Pandan Road Singapore 609288
 Tel: +65 6262-1616 Fax: +65 6261-6311
 Website: <http://www.asahisolder.com> Email: enquiry@sinasahi.com.sg