

## V349 CLF5013

*No Clean Core Wire*



### Product Description

Viromet\* 349, with a composition of Sn/Ag4.1/Cu0.5/In4.0, is one of the high-performance lead free solder available in the industry. Viromet 349 core wire can be used as a drop-in replacement for conventional Sn/Pb solders in manual soldering. It possesses superior mechanical properties and better reliability as compared to conventional Sn/Pb solders.

V349 CLF5013 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.

### Application

V349 CLF5013 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:	330 - 380 °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	Sn/Ag4.1/Cu0.5/In4.0
Flux Content	3.0 ± 0.3 wt%
Density of Core Flux @ 25°C	0.866
Halide Content	Not added
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)	> 1 x 10 <sup>8</sup> Ω, Pass
IPC-TM-650 2.6.3.3	> 1 x 10 <sup>11</sup> Ω, Pass
JIS Z 3197 8.5.3	
Electromigration (85°C, 88.5%RH, 596hrs)	Pass
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 "M", Pass
IPC-TM-650 2.3.32	
JIS Z 3197 8.4.2	
Flux Activity Classification	ROM0
IPC J-STD-004	
Spread Factor	> 80% (V349)
JIS Z 3197 8.3.1.1	
Residue Dryness Test	Dry
JIS Z 3197 8.5.1	
Residue Appearance	Light Yellowish & Minimal

\* World Patent No. 03/006200 A1

\* US Patent No. 5,985,212; 6,176,947; 6,843,862

## PHYSICAL PROPERTIES

Melting Temperature	205 - 210 °C
Coefficient of Thermal Expansion	22.9 $\mu\text{m}/\text{m}^\circ\text{C}$
Density	7.40 $\text{g}/\text{cm}^3$

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

Tensile Strength	72.03 MPa
Yield Strength	52.98 MPa
Young's Modulus	5.95 GPa

## 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 V349 CLF5013 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. V349 CLF5013 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

V349 CLF5013 lead free no clean core flux solder wire is commonly available in various diameters such as 0.25, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.2, 1.6 and 2.0mm. For different diameters, please specify your requirements.

Packaging	0.03kg	0.10kg	0.20kg	0.25kg	0.50kg	1.0kg
Diameter (mm)	0.25	0.3	0.4	0.5 to 2.0	0.5 to 2.0	0.8 to 2.0

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