# PRODUCT PROFILE

# ELECTROLOY NO CLEAN
# HALOGEN FRE LEAD FREE PASTE

| Product Name | Product Code |
|---|---|
| **#265 – HALOGEN FREE LEAD FREE PASTE – Sn99.0/Ag0.3/Cu0.7** | **EMCO#265HF-315P** |

## PRODUCT DESCRIPTION

Electroloy's EMCO#265HF-315P* No Clean Solder Paste is a rosin based solder paste with a wide print process window and extremely long abandon and open time. The soft non-stick residues improve reliability of in-circuit testing and reduce the frequency of test probes cleaning. EMCO#265HF-315P also is a Halogen Free product.

## ATTRIBUTES

- Pin-testable residue
- ROL0 to IPC J-STD-004
- Enhanced activity for tough to solder boards and components
- Excellent slump resistance
- Excellent tack performance and printer open time
- Extended "between-print" abandon time
- Clear, colorless residues
- Halogen Free

## CHEMICAL COMPOSITION OF ALLOY

Quality of Electroloy's EMCO#265HF-315P lead free solder paste in terms of composition of alloy is controlled strictly under Electroloy's Lead Free Specification LF-315.

| Elements | | Specification (%wt/wt) |
|---|---|---|
| Tin | Sn | Remainder |
| Lead | Pb | Max 0.050 |
| Aluminium | Al | Max 0.005 |
| Antimony | Sb | Max 0.050 |
| Arsenic | As | Max 0.030 |
| Bismuth | Bi | Max 0.050 |
| Copper | Cu | 0.6 – 0.8 |
| Iron | Fe | Max 0.010 |
| Zinc | Zn | Max 0.003 |
| Cadmium | Cd | Max 0.002 |
| Silver | Ag | 0.2 – 0.4 |
| Nickel | Ni | Max 0.010 |
| Indium | In | Max 0.050 |
| Gold | Au | Max 0.050 |

* Patent No: US 5527628

## PHYSICAL APPEARANCE OF SOLDER POWDER

The EMCO#265HF-315P lead free solder paste is grey in color.

## POWDER PARTICLES

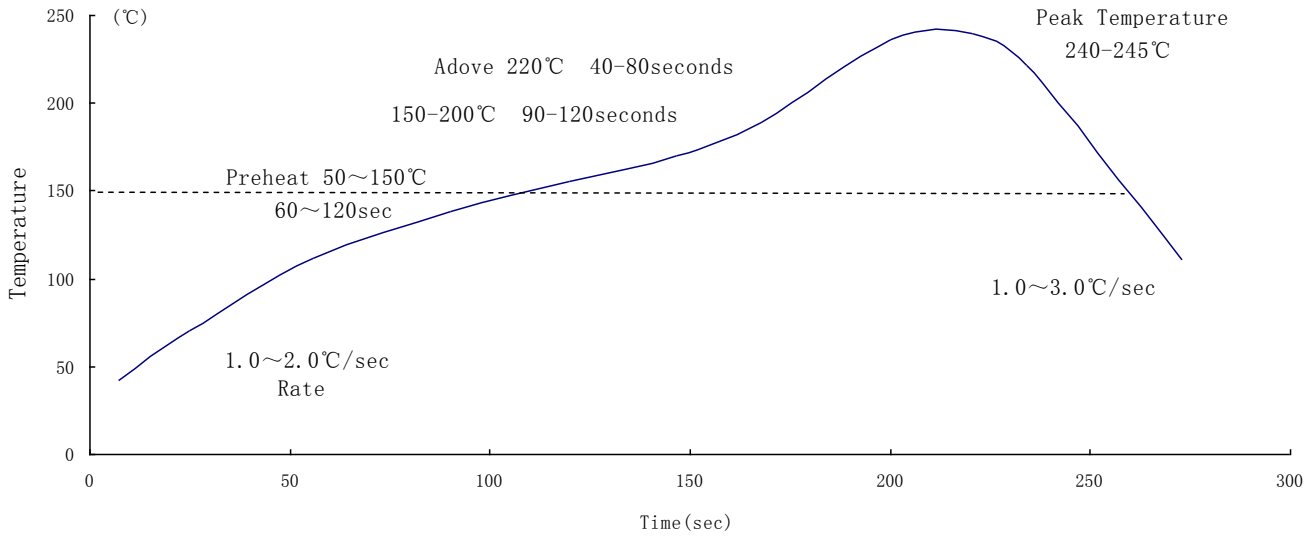
The Tin Powder Particles are following International Standard IPC J-STD-005

| Weight Percentage | Standard Size 4# | Standard Size 3# |
|---|---|---|
| Less than 1% of the sample size which is greater than: | **38 µm** | **45 µm** |
| At least 80% of the sample between: | **20-38 µm** | **25-45 µm** |
| Up to 10% of the sample whichis less than: | **20 µm** | **25 µm** |

## CHARACTERISTICS OF EMCO#265HF-315P SOLDER PASTE

| Item | Characteristics | Test Method |
|---|---|---|
| Viscosity | 160,000 ± 30,000 cp | PCU-203, 10rpm,25°C |
| Flux Activity | ROL0 | - |
| Copper Corrosion Test | Pass | IPC-TM-650 Method 2.6.15 |
| Flux content | 11.5 ± 0.5% | JIS Z 3197 |
| Wetting Test | Pass | IPC-TM-650 Method 2.4.45 |
| Solder Ball Test | Pass | IPC-TM-650 Method 2.4.43 |
| Slump Test | Pass | IPC-TM-650 Method 2.4.35 |
| Surface Insulation Resistance, 168 Hours (Ω) | ≥1 x $10^9$ | IPC-TM-650 Method 2.6.3.3 |

## Reflow temperature graph of EMCO#265HF-315P Solder Paste




### Preheat
From room temperature until 140-150°C at a rate of 1-2°C/s. Fasten rate could result in component cracking due to vaporizing absorbed moisture.

### Soak Zone
Between 150 and 200°C. A soak zone is used to level out temperature differences on a board. It is often used in IR ovens and on boards with a big diversity of components and Cu distribution.

### Ramp up to reflow
Maximum 2°C/s because of different thermal expansion coefficients inside the components.

### Reflow
Peak temperature related to component specifications. Peak temperature at 240-245°C for 5-8 sec, more than 220°C for 40-80 sec.

### Cooling
Maximum 3°C/s because of different thermal expansion coefficients inside the components.

## PACKAGING

Each tub of solder paste is approximately 0.5kg and shall be sealed tightly. Traceable information will be shown on the sticker such as product code, alloy composition, particle size, net weight and lot number .The solder paste tub shall be placed in foam box and packed in carton boxes of about 10kg per box. Cartridge and syringe type of solder paste is available upon request.

## STORAGE AND SHELF LIFE

Please store the product at 10°C or lower. When unopened, it is effective for 6 months from the date of manufacturing. To use the product, retrieve it from the place of storage. Please use the solder paste only after its temperature has resumed to the level of room temperature (leave it to stand for approximately 4-6 hours after retrieval from storage).

## DELIVERY

Each order can be shipped with the Certificate of Analysis for each lot.

## MATERIAL SAFETY DATA SHEET

A MSDS for this product can be request from our Sales personnel.