FLOWTIN+ TC

New Micro Alloyed Lead-Free Solder for Electronic Application

DESCRIPTION

Stannol Flowtin+ TC is a solder alloy on basis of tin/copper Sn99Cu1 and has been developed from Flowtin TC to avoid or minimize dross formation on solder bath surfaces when operated on air. As soldering under nitrogen is also not totally free of oxygen, the solder surface stays longer clean with Flowtin+ TC.

CHARACTERISTICS

Flowtin TC offers the following advantages:

- **Advanced solder for wave soldering**
- **Less dross formation**
- **Less solder bath maintenance**
- **Avoids oxide related soldering defects**
- **Eutectic solder (melting point at 227 °C)**
- **Operates best at 260-270°C solder bath temperatures**

APPLICATION

Switching from any lead-free solder to Flowtin+ all operating conditions can be set to the same level as it would be appropriate for tin-copper solder. Physical Properties don't change by micro-addition of elements to prevent copper dissolution and additives for dross prevention.

There are some differences between common Ecoloy TC and advanced Flowtin+ TC:

- **Solidification of the solder joint with fine grain structure**
- **Smooth and shiny surface**
- **Reduced copper dissolution**
- **Prolonged lifetime of solder bath**
- **Flowtin+ prevents tarnishing of the solder surface and prevents dross formation**
- **Less soldering defects**
- **Far less maintenance of soldering equipment**

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PHYSICAL PROPERTIES AND DATA

GENERAL PROPERTIES	S-Sn63Pb37*	STANNOL ECOLOY TC (S-Sn99.3Cu0.7)*	STANNOL FLOWTIN TC (S-Sn99.3Cu0.7)**	STANNOL FLOWTIN+ TC (S-Sn99.3Cu0.7)***
Melting Point, °C:	183	227	227	**227**
Electrical Conductivity, %IACS:	11.9	---	15.6	**15.6**
Electrical Resistivity, µΩcm:	14.5	---	12.6	**12.6**
Brinell Hardness, HB:	17	---	9	**9**
Density, g/cm³:	8.4	7.3	7.3	**7.3**

* Complying with DIN EN ISO 9453

** Complying with DIN EN ISO 9453 with micro additives <0.1%

*** Complying with DIN EN ISO 9453 with micro additives <0.05% and desoxidation-additive

RECOMMENDED CONDITIONS OF USE

Wave soldering: The recommended operation conditions for Flowtin+ TC in wave soldering are the same like normal Ecoloy TC, as the melting point (227°C) remains unchanged. Optimum operating temperatures are about 265°C, while the optimum effectiveness of Flowtin TC is at higher temperatures >270°.

PURITY

Like Sn99.3Cu.7 according to DIN EN 61190-1-3 and S-Sn99.3Cu0.7 according to DIN EN ISO 9453, but with micro-additive <0.05% and desoxidation-additive.

SUPPLY FORMS

Triangular bars, Kg-bars, Ingots with hanging hole

NOTICE

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