

# SOLDER FLOWTIN TSC263

Lead-free alloy for electronics

## DESCRIPTION

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Stannol Flowtin TSC263 (Sn97.1Ag2.6Cu0.3+MA) was developed as a new alloy to eliminate the usage of conventional tin/lead alloys in the existing production processes of electronics assembly. All around where lead-free PCBs and components are in use, the application of Stannol Flowtin TSC263, assures that lead-free components can be produced according to WEEE and RoHS.

Stannol Flowtin TSC263 is patent-free, and manufactured products are free of claims regarding the composition of the solder. Even if the copper content increases as usual in the wave soldering machine, there won't be any soldered joints which infringe any patent claims.

Stannol Flowtin TSC263 eliminates the problematic disposal of lead containing waste materials.

## CHARACTERISTICS

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The product offers the following advantages:

- **no licence fees!**
- **tested with good results in the electronics production**
- **melting range comparable with Ecoloy TSC305 (S-Sn96.5Ag3Cu0.5)**
- **characteristics comparable with Ecoloy TSC305 (S-Sn96.5Ag3Cu0.5)**
- **extended operating time by reduced Copper content**
- **favourable price by low Silver content**

## APPLICATION

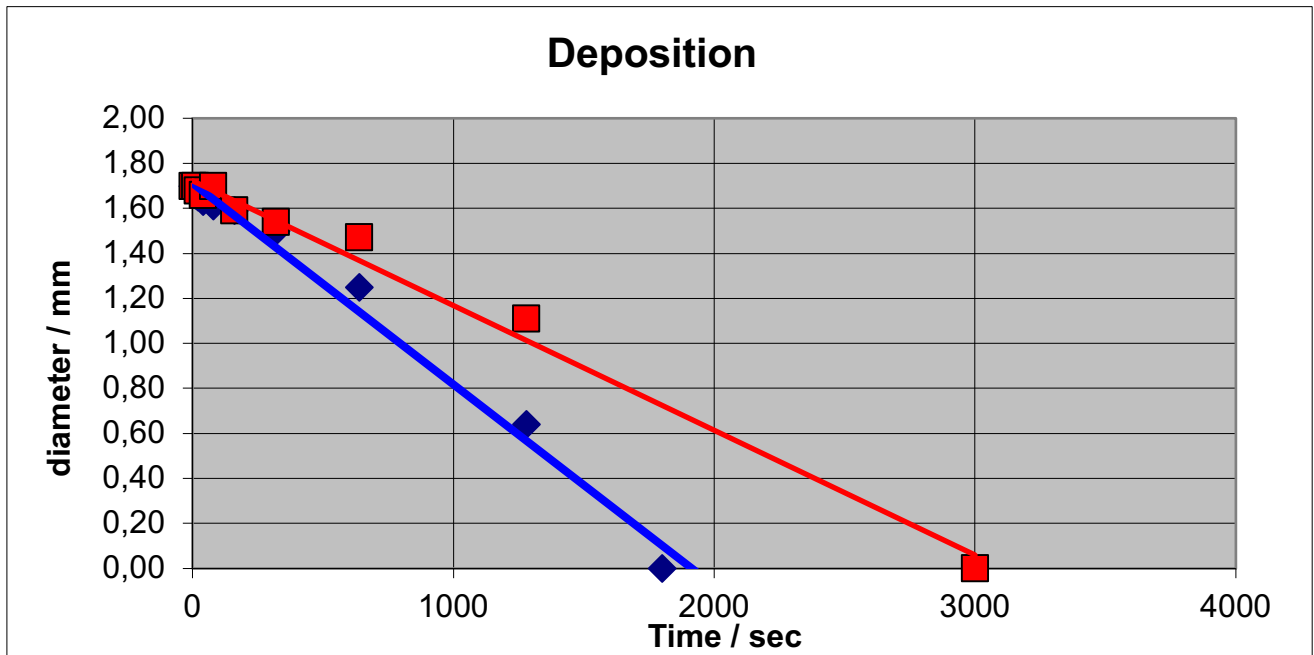
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As with the Ecoloy TSC263 alloy, the temperature profiles of the production equipment must be adjusted when switching from leaded to lead-free processes. When switching from Ecoloy TSC263 to Flowtin TSC263 the settings remain the same! The properties of the resulting solder joints will be comparable or better in all points with solder joints made with Sn/Pb solders.

**The physical properties are not changed by the microalloy additions. The differences between Ecoloy TSC263 and Flowtin TSC263 are:**

- **in the solidification of the solder joint, which is finer grained and therefore smoother**
- **in the reduced deposition, whereby far less copper is removed**
- **in the extended service life of solder baths due to lower copper enrichment**

## PRODUCT AREA



**ECOLOY TC** 0,41  $\mu\text{m}/\text{sec}$     **FLOWTIN TC07** 0,23  $\mu\text{m}/\text{sec}$

## GENERAL PROPERTIES OF ECOLOY AND FLOWTIN ALLOYS COMPARED TO S-Sn63Pb37

GENERAL PROPERTIES	S-Sn63Pb37*	Stannol Ecoloy TSC (S-Sn95.5Ag3.8Cu0.7)*	Stannol Flowtin TSC263 (Sn97.1Ag2.6Cu0.3)*
<b>Melting Point / Melting Range, °C:</b>	183	217	217-224
<b>Electrical Conductivity, %IACS:</b>	11.9	13	13
<b>Electrical Resistance, <math>\mu\Omega\text{cm}</math>:</b>	14.5	13	13
<b>Brinell Hardness, HB:</b>	17	15	15
<b>Density, <math>\text{g}/\text{cm}^3</math>:</b>	8.4	7.5	7.5

\*Complying with DIN EN ISO 9453 and/or internal specifications.

## RECOMMENDED CONDITIONS FOR USE

**Wave soldering:** The recommended application conditions for wave soldering are the same as for normal Ecoloy TS263 alloys, as the melting point remains the same! The use of inert gas on the wave or in the tunnel is recommended. The lower copper content is advantageous for wave soldering because longer operating times of the solder bath can be achieved. By de-alloying of copper from the PCB the copper content increases. It takes longer until the critical limit of 1.0% is reached.

## **SUPPLY FORMS**

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Solder Wire (solid and flux cored), Triangular bars, Kg-bars, Ingots with hanging hole

## **HEALTH AND SAFETY**

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Before use please read the material safety data sheet carefully and observe the safety precautions described.

## **NOTICE**

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The above values are typical and represent no form of specification. The Data Sheet serves for information purposes. Any verbal or written advise is not binding for the company, whether such information originates from the company offices or from a sales representative. This is also in respect of any protection rights of third parties, and does not release the customer from the responsibility of verifying the products of the company for suitability of use for the intended process or purpose. Should any liability on the part of the company arise, the company will only indemnify for loss or damage to the same extent as for defects in quality.