



## SOLDER FLOWTIN TC04

### PRODUCT DESCRIPTION

Stannol Flowtin TC04 is a Cu-reduced refill solder for Flowtin TC solder baths, if a critical Cu concentration above 0,9% can occur in the solder bath during the process by copper leaching.

### PRODUCT FEATURES

The product offers the following advantages:

- Melting point at approx. 227 °C
- With all Stannol Flowtin alloys no problematic disposal of lead-containing waste materials
- Reduced copper content of 0.4%
- Counteracts against increased Cu content in the solder bath

### APPLICATION

After using the Cu-reduced refill solder for the first time, the copper content of the solder bath should be regularly checked analytically in the initial period.

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

GENERAL. FEATURES	S-Sn63Pb37***	STANNOL ECOLOY TSC [S-Sn95.5Ag3.8Cu0.7]***	STANNOL ECOLOY TS [S-Sn96.3Ag3.7]****	STANNOL ECOLOY TC [S-Sn99.3Cu0.7]***	STANNOL FLOWTIN TC04 [S-Sn99.3Cu0.7]****
<b>Melting point/range, °C:</b>	183	217	221	227	<b>approx. 227</b>
<b>Electrical conductivity, %IACS:</b>	11,9	13	14	-	--
<b>Electrical Resistance, μΩcm:</b>	14,5	13	12,3	-	--
<b>Brinell hardness, HB:</b>	17	15	15	-	--
<b>Density, g/cm<sup>3</sup>:</b>	8,4	7,5	7,5	7,3	<b>7,3</b>
<b>Shear stress, (20°C)/ N mm<sup>-2</sup> at 0.004 s<sup>-1</sup> shear rate:</b>	40	48	58	48	
<b>Shear strength N mm<sup>-2</sup> at 0.1mm<sup>-1</sup>, 20°C:</b>	23	27	27	23	<b>23**</b>
<b>at 0.1mm<sup>-1</sup>, 100°C:</b>	14	17	17	16	<b>16**</b>
<b>Creep resistance* N mm<sup>-2</sup> 20°C:</b>	3,3	13,0	13,7	8,6	<b>8,6**</b>
<b>100°C:</b>	1,0	5,0	5,0	2,1	<b>2,1**</b>

Shear stress for 103 h to failure, source: IDEALS

\*\*\* According to DIN EN ISO 9453

Preliminary data comparable with ECOLOY® TC alloy

\*\*\*\* According to DIN EN ISO 9453, additionally doped with micro alloy additives <0.1%.

## RECOMMENDED OPERATING CONDITIONS

---

**Wave soldering:** The recommended conditions for wave soldering are the same as for normal Ecoloy TC alloys, as the melting point remains the same!

## PURE UNIT

---

Like Sn99.3Cu.7 according to DIN EN 61190-1-3 and S-Sn99.3Cu0.7 according to DIN EN ISO 9453 with microalloy additives <0.1%.

## DELIVERY FORM

---

### Massive solder wire

- Triangular bars
- „Kilo“ bars
- Ingots with hanging hole

## HEALTH AND SAFETY

---

Before first use, please read the safety data sheet and observe the safety measures.

## NOTE

---

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.