FLOWTIN Mikrolegierte Lote

STANNOL®

Wenn's ums Löten geht
When it's about soldering
Quand il s'agit du soudage

! NEW !

Technical Data Sheet

STANNOL® FLOWTIN® TC

New Lead-Free Solder Alloy for Electronic Application

- **Eutectic Solder (melting point at 227°C)**
- **Good wetting behaviour**
- **Fine grain and smooth surface better than ECOLOY® TC (S-Sn99Cu1)**
- **Reduced dissolution of substrate metal compared to ECOLOY® TC (S-Sn99Cu1)**
- **Easy disposal – no lead containing waste.**

Application

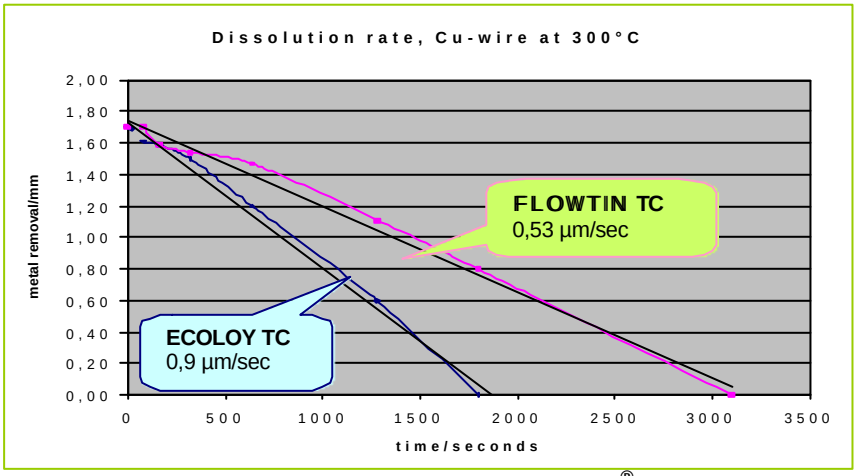
STANNOL® FLOWTIN® TC solders have been designed to eliminate the use of lead containing solders in electric and electronics manufacturing. Like with **ECOLOY® TC** solder it is necessary to adjust machine settings, temperature profiles, and other parameters to the requirements of a lead free process. But there is nothing to do when switching from **ECOLOY® TC** to **FLOWTIN® TC**, all settings and parameters remain the same. The properties of the solder joints are at least comparable or even better than tin lead.

The physical properties of **FLOWTIN® TC** do not change compared to common tin/copper solder. But there are differences between **ECOLOY® TC** and **FLOWTIN® TC** with micro additives.

- The solder joint solidifies as fine grain metal; therefore the surface is shinier
- The dissolution of substrate metal is reduced
- The extended service life of solder baths due to smaller copper enrichment

Product Range

STANNOL® FLOWTIN® TC is available as solder bars and solder wire



Radial dissolution of copper wire in FLOWTIN® TC solder bath @300°C

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Physical and Mechanical Properties of ECOLOY® and FLOWTIN® solders compared with Sn63Pb37:

Properties	S-Sn63Pb37	STANNOL® ECOLOY TSC (Sn95,5Ag3,8Cu0,7)	STANNOL® ECOLOY® TS (S-Sn96Ag4)	STANNOL® ECOLOY® TC (S-Sn99Cu1)	STANNOL® FLOWTIN® TC
Melting Point /°C	183	217	221	227	**227**
electrical Conductivity %IACS	11,9	13	14	-	**-**
electrical resistivity / µw cm	14,5	13	12,3	-	**-**
Brinell Hardness, HB	17	15	15	-	**-**
Density /g cm^{-3}	8,4	7,5	7,5	7,3	**7,3**
Tensile strength, (20°C) / N mm^{-2} at 0,004 s^{-1} Shear rate	40	48	58	48	**-**
Shear Strength N mm^{-2} at 0,1mm^{-1}, 20°C	23	27	27	23	**23**
at 0,1mm^{-1}, 100°C	14	17	17	16	**16**
Creep Resistance* N mm^{-2} 20°C	3,3	13,0	13,7	13,7	**8,6**
100°C	1,0	5,0	5,0	5,0	**2,1**

Recommended Conditions of Use

Wave soldering

The recommended operation conditions for wave soldering are the same like normal **ECOLOY® TC** solders, since the melting point remains!

Purity

Sn99Cu1, Solder to DIN EN 61190-1-3 and DIN EN 29453 / ISO 9453 Contains pure tin with 0,7%Cu and micro-additives

Delivery Forms

STANNOL® FLOWTIN® TC is available as bars and sticks or as wire for wave soldering, for rework and repair application as well as for robotic processes.

Health and Safety

Information about Health and Safety and Disposal of used products can be found in our Safety data Sheet, which is available on request.

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