



FLOWTIN SERIES

Lead-free soldering with Flowtin

DESCRIPTION

The Stannol Flowtin lead-free solders are newly developed alloys which exhibit advantageous properties in comparison with standard lead-free solders.

CHARACTERISTICS

The specific micro-additive formulation gives extended features:

- **Copper** (reduced dissolution – longer durability of the solder bath – nearly no enrichment of copper – less analyses – extended contact time possible – optimum for lead-free HAL-surfaces)
- **Iron** (reduced dissolution – lifetime of solder tips tripled – higher soldering temperature possible – solder pots last longer)
- **Shinier surfaces** (easy optical inspection [Sn/Cu is comparable with Sn/Pb])
- **Micro-alloyed Flowtin-SnAgCu** (without license fees to the USA)
- **Micro-alloyed** (finer microstructure – improved surface texture of the lead-free solder joint – reduces micro cracks)
- **Meets all demands of EU directives ROHS and WEEE**
- **Applicable for all soldering processes**
- **Optimum wetting speed**

ALLOYS

Some adjustments have to be made on production equipment, e.g. setting of temperature profiles in the reflow equipment. The properties of the resulting solder joints will perform as well as tin/lead solder joints or even better in all respects.

ALLOY	COMPOSITION*	STANDARD DESIGNATION BASED ON DIN EN ISO 9453	MELTING POINT °C
FLOWTIN TC:	Sn99.3Cu0.7	S-Sn99.3Cu0.7*	227
FLOWTIN TC300**:	Sn97Cu3	S-Sn97Cu3*	227-310
FLOWTIN TSC:	Sn95.5Ag3.8Cu0.7	S-Sn95.5Ag3.8Cu0.7*	217
FLOWTIN TSC305:	Sn96.5Ag3.0Cu0.5	S-Sn96.5Ag3Cu0.5*	217-223
FLOWTIN TSC263**:	Sn97.1Ag2.6Cu0.3	not described in the ISO-Standard	217-224
FLOWTIN TSC0307:	Sn99Cu0.7Ag0.3	S-Sn99Cu0.7Ag0.3*	217-227

* Complying with DIN EN ISO 9453 and/or internal specifications with micro additives <0.1%.

** These alloys are subject to minimum order quantities!

PRODUCTS

Solder Bars and Ingots: The alloys listed above are available as bars and ingots with hanger hole.

Flowtin Upgrade-Pack: Fast and low cost changeover of lead-free standard alloys to micro-alloyed solders of the Flowtin series. All Flowtin advantages without expensive exchange of the complete solder bath.

Solder Wires: Solid wires as well as flux cored solder wires with Flowtin lead-free alloys were intensively tested in our laboratory and approved by our customers. Following types from the established Stannol solder wires are considered best for lead-free application:

SOLDER WIRE	IEC 61190-1-3 / DIN EN 29454-1	FLUX CONTENT	NO. OF CORES	STANDARD ALLOYS
KS100:	RELO / 1.2.3 (halide free)	3.0%	1	Flowtin TC Flowtin TSC Flowtin TSC305
KS115:	REM1 / 1.2.2 (halide containing)	3.0%	1	Flowtin TSC305 Flowtin TSC0307
HF34:	ORM0 / 2.2.3 (halide free)	1.6%	1	Flowtin TSC305 Flowtin TSC0307
Kristall 400:	RELO / 1.2.3 (halide free)	2.2%	1	Flowtin TC Flowtin TSC Flowtin TSC305 Flowtin TSC0307
Kristall 511:	REM1 / 1.2.2 (halide containing)	3.0%	1	

NOTICE

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.