



Product Information

FELDER-ISO-Tin[®] - LEAD-FREE, Sn99Ag+

Lead-free solder for wave, selective and dip soldering units, in compliance with RoHS 2011/65/EU;
according to Fuji-Pat.-No. DE19816671C2, US6179.935, JP3296289
Sn99Cu0,7Ag0,3(+NiGe) according to DIN EN ISO 9453:2014

Item No. 551281...

All information about our products is the result of our long standing experience which we would like to pass on to our customers as application support. However, as we do not have any influence on the application of the works carried out with our products, please see the warranty claims in our conditions of sale because our liability is limited.

This product information does not constitute warranted properties.

Application

Lead-free soldering in the industrial assembly production.

High temperature applications e. g. in the automotive industry (good thermal shock resistance at high temperatures). Continuous temperature resistance at least up to 120° C.

A use in older wave soldering units is also possible, whose pots and nozzles are made of V2A and do not have protective gassing. The experience of our customers shows that most applications can be done without inert gas.

Properties

Beside the well-known advantages of Ni-endowed solders this alloy reaches by adding of germanium improved wetting qualities on all common surfaces in the electronic production and **lowest dross formation** in comparison to all other lead-free solders. A special advantage lies in the extremely low de-alloying rate with copper (in comparison to common SnAgCu-alloys up to 5 times lower). The low addition of silver of 0,3 % in „Sn99Ag+“ has no negative influence on the corrosion effect on stainless steel parts. Furthermore, this Ag-addition leads in comparison to SnCuNi-alloys, additionally to a lowering of the working temperature, an improved passage with THT applications and to an improved wetting of the soldering joint.

Metallic composition: 99 % Sn, 0,7 % Cu, 0,3 % Ag, 0,06 % Ni, 0,01 % Ge

Melting range/-point: 217° - 227° C

Specific weight: 7,34 g/cm³

Electrical conductivity at 25° C: 2,5 x 10⁶ m/Ωmm²

Recommended soldering temperatures

Wave soldering: 260 – 275° C

Selective soldering: 280 – 320° C

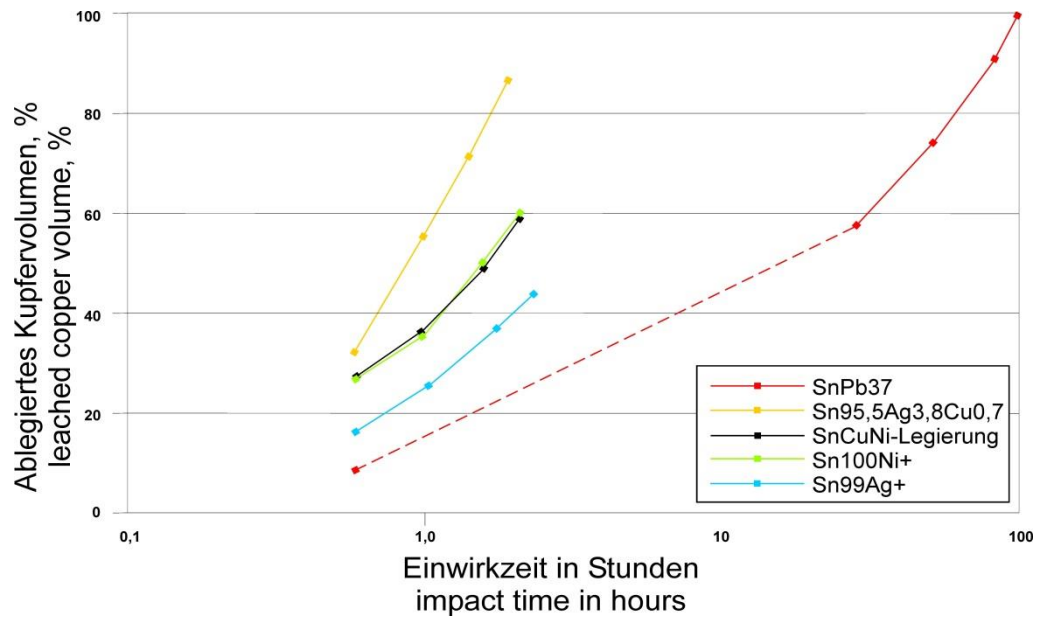
Composition and max. impurities according to DIN EN ISO 9453:2014

<u>Sn</u>	<u>Cu</u>	<u>Ag</u>	<u>Ni</u>	<u>Ge</u>	<u>Al</u>	<u>As</u>	<u>Au</u>	<u>Bi</u>	<u>Cd</u>
Rest	0,7±0,2	0,3±0,1	0,06±0,01	0,01-0,015	0,001	0,03	0,05	0,08	0,002

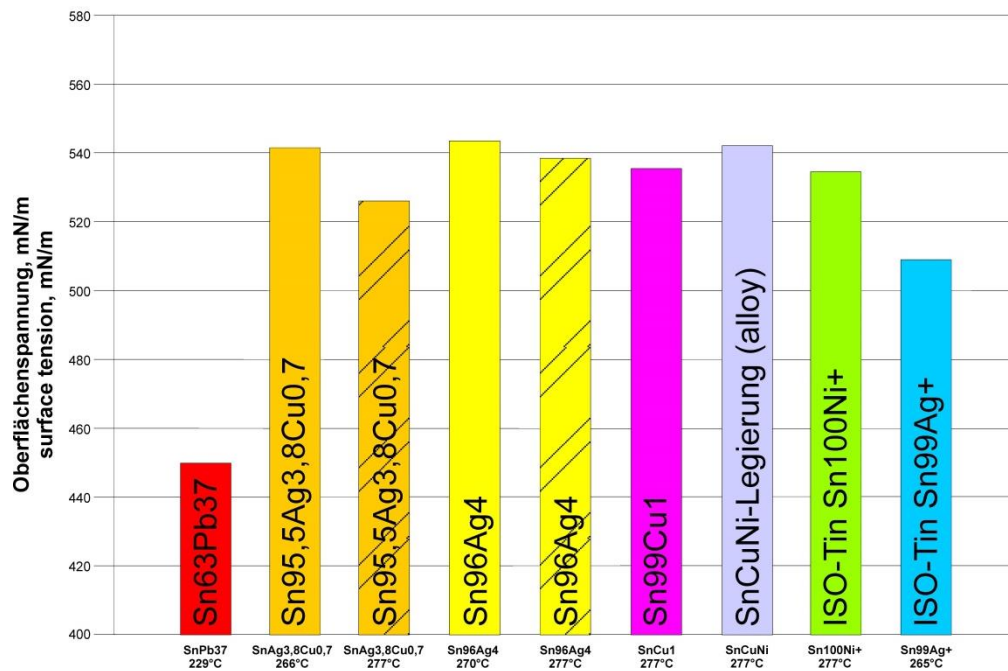
<u>Fe</u>	<u>Pb</u>	<u>Sb</u>	<u>Zn</u>
0,02	0,07	0,1	0,001

*The maximum lead content in FELDER-Electronic solders is 0,05 % (standard requirement 0,07 %).

Copper de-allying in comparison



Surface tension in comparison



Delivery Forms

250 g triangular rods, 400 mm long
1,0 kg rods, 330 x 20 x 20 mm
3,5 kg blocks with hanging hole, 545 x 47 x 20 mm

Also deliverable as massive wire on spools for automatic feeding and as wire cuts for first filling.

Advices

Lead-free FELDER-ISO-Tin® Electronic Solders contain no substances for which exist restrictions in the directive 2011/65/EU („RoHS II“).

Each delivery is furnished with a batch-number. On request a certificate of analysis will be enclosed. The values of the analysis will be determined by emission spectrometer.

Stored dry and dust-free the material is infinitely durable.