Product Information

FELDER-ISO-Tin® "Sn95Ag+"

Lead-free electronic solder for the application in selective, wave and dip soldering units.

Sn95.43Ag3.8Cu0.7Ni0.06Ge0.01 produced according to the specifications of EN ISO 9453:2014.
According to Fuji-Pat.-No. DE19816671C2, US6179.935, JP3296289.

In compliance with RoHS 2011/65/EU

Item No. 551284…

Application

Especially temperature sensitive components and PCBs preferably require low soldering temperatures ≤ 260° C which cannot be reached with conventional SnCu-solders.

With FELDER-ISO-Tin ®- LEAD-FREE "Sn95Ag+" low wave soldering temperatures about 255° C are even possible under normal atmosphere!

Properties

Beside the well-known advantages of Ni-doped solders our alloy reaches **improved wetting qualities** on all common surfaces in the electronic production and **lowest dross formation** in comparison to all other lead-free solders by adding silver and germanium. A special advantage is the **low melting temperature of 217° C.** Furthermore, this Ag addition leads to a more **improved metal structure of the soldering joint** in comparison to SnCuNi-alloys. A further advantage of **FELDER-ISO-Tin ® - LEAD-FREE "Sn95Ag+"** is the **low de-alloying rate with copper** (in comparison to common SnAgCu-alloys up to **5 times lower**).

Moreover, we exclusively offer **the patent protected possibility** to convert your solder bath from conventional SnCu(Ni)-alloys resp. from **Sn100Ni+** with a silver concentrate to **Sn95Ag+** and thus to lower processing temperatures.

An „upgrade" to silver containing **FELDER SAC-NiGe-electronic solders** is possible step by step so that you can determine the optimal silver content for your application (0.3 %, 1.2 %, 3.0 % or 3.8 %) by yourself on-site.

Reference Analysis / Tolerances

Element	Sn	Cu	Ag	Ni	Ge	Pb
Content (%)	Rest	0.7±0.2	3.8±0.2	0.05 – 0.07	0.010 – 0.015	≤ 0.07

Element	Al	As	Bi	Cd	Fe	Sb	Zn
Content (%)	≤ 0.001	≤ 0.03	≤ 0.05	≤ 0.002	≤ 0.02	≤ 0.05	≤ 0.001

 Status: 09/20

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Summary of the Solder's Properties

Metallic composition:	3.8 % Ag (+/-0.2), 0.7 % Cu (+/-0.2), rest Sn
Doping:	0.06 % Ni and 0.01 % Ge
Pb-impurity:	max. 0.07 %
Melting range/-point:	217° C
Recommended solder bath temperature:	255 – 265° C
Electrical conductivity:	7.6 m/Ωmm^2
Specific weight:	7.38 g/cm^3
Hardness Hv:	18

Delivery Forms

Approx. 450 g (±30 g) rods, 330 x 20 x 10 mm
3.5 kg blocks with hanging hole, 545 x 47 x 20 mm

Also deliverable as massive wire on spools and as pressed pellets for first filling.

Advice

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

Other alloys are included in our standard delivery program.

Stored at constant room temperature the material is infinitely durable.

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