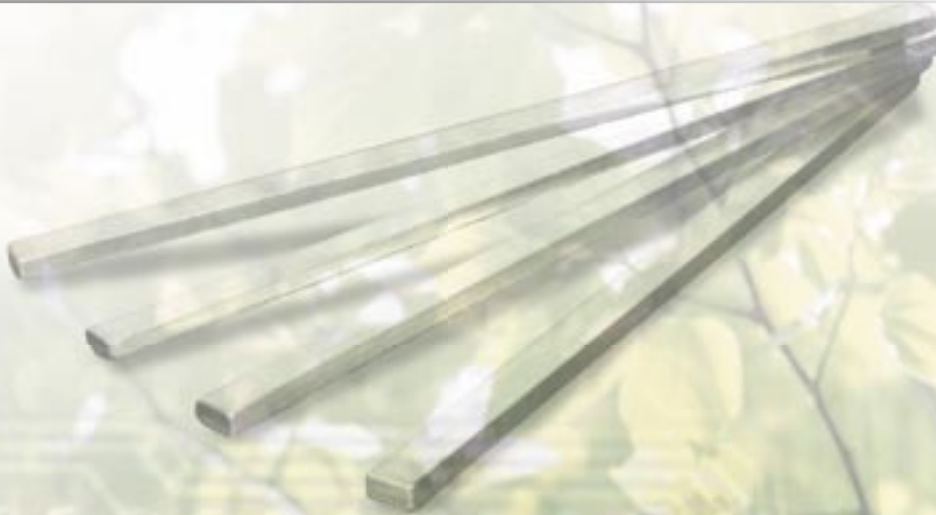


FELDER

„SolderCoat - Sn100Ni+“



Lead-free alloy on Sn99,3Cu0,7-basis
with outstanding technical and
physical characteristics

FELDER

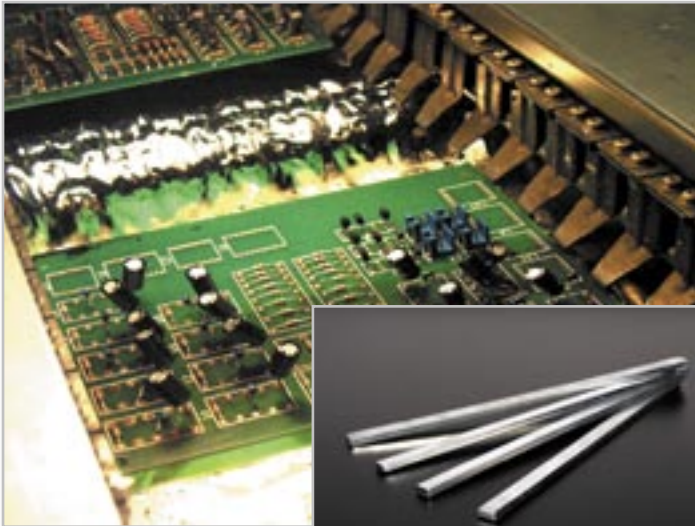
Löttechnik



FELDER GMBH
Löttechnik
Im Lipperfeld 11
D-46047 Oberhausen

Phone: +49 (0)2 08 / 8 50 35 - 0
Fax: +49 (0)2 08 / 2 60 80
Internet: www.felder.de
E-mail: info@felder.de

FELDER Löttechnik



FELDER
„SolderCoat - Sn100Ni+“

The innovative lead-free electronic solder alloy!

THE RIGHT STEP FORWARD!

Themed by this FELDER GMBH Löttechnik has investigated for innovations on the lead-free soldering sector:

FELDER „SolderCoat-Sn100Ni+“

Fuji-Patent DE 198 16 671 C2

is a patented and optimized development of the conventional Sn99,3Cu0,7Ni-alloys with their well-known properties:

- Ni as barrier layer for
 - prevention of tin-whiskers
 - increasing the creep strength of the solder joint due to the reduction of growth of IM-phases
 - prevention of corrosion appearances of solder pots and nozzle parts of older soldering units with stainless steel pots and of soldering irons
 - reduction of the Cu-leaching
- shiny soldering joints (there is no difference between the look of lead-free or lead-containing soldering joints)
- homogenous forming of metal structure of soldering joint and therefore an optimal solidification attitude without micro cracks
- more competitive than SnAg- and SnAgCu-alloys

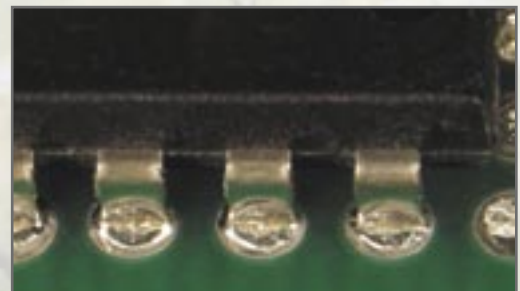


But **FELDER „SolderCoat-Sn100Ni+“** can do more! >>>>>

The plus + in FELDER „SolderCoat - Sn100Ni+“ stands for germanium!

Germanium (Ge) has an oxygen reducing effect and improves the soldering properties as follows:

- Ge reduces the surface tension of the molten solder alloy and thus improves the wetting values of the SnCuNi-alloy.



- Ge reduces the dross formation against Sn99,3Cu0,7Ni for further 50 - 70%!
- Ge-endowed solder shows already at first sight considerably less surface oxides than conventional solders.

- Ge improves the tensile strength of the soldering joint for approx. 10%.
- Ge reduces once more the copper removal and simplifies the refreshing of the solder fillet.
- Ge shows a low rate of consumption. Thus a minimal Ge-part is sufficient and it remains stable in the molten solder.
- Ge supports the formation of the metal structure of the soldering joint and reduces thereby the development of micro cracks.



Physical properties in comparison to the standard alloy Sn99,3Cu0,7

Alloy	Sn100Ni+	Sn99,3Cu0,7
Melting temperature in °C	227°C eutectic	227°C eutectic
Density in g/cm ³	7,31	7,31
Tensile strength in N/mm ²	40	37,4
Extension in %	70	66
Hardness Hv	11,5	11
Creep strength at 80°C, weight 1200g in hr	> 3000	> 3000
Spreading rate according to JIS Z3283 in %	73,6	72,8
Wetting time in sec.	0,88	0,91
Maximum wettability in mN	1,07	1,04
Electrical conductivity in Ωm	2,5 x 10 ⁻⁷	2,0 x 10 ⁻⁷
Thermal expansion factor in 1/°C	23,6 x 10 ⁻⁶	21,5 x 10 ⁻⁶

Delivery forms

Pressed rods, approx. 400g, 7 x 18 x 400 mm
 3,5 kg-blocks with hanging hole 47 x 20 x 545 mm

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