



Product Information

FELDER-ISO-Core[®] "Clear", LEAD-FREE

Flux-filled, lead-free soft solder wire for soldering in the electronic production.
Flux residues according to DIN EN 61190-1-3, IPC-J-STD-004: REL1.

Item no.: (55/56)52.....

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

This product information describes not any warranted properties.

Description

High-quality, lead-free solder wire for hand and robot soldering in the field of electrical engineering, electro mechanics and in the field of electronic. The flux characterises itself by **high temperature resistance** and **no spattering** during the melting process. An **optimal wetting** as well as **standard exceeding spreading values** makes this lead-free solder wire to a top-quality product among the cored solder wires.

The new flux recipe „Clear“ is perfectly build up upon a basis of synthetic resins (free of colophony) and on the new requirements of the lead-free soldering technique:

- **fast wetting and high spreading** on all common surfaces in the electronics sector
- **no (painful) flux spatters** on the components, plant parts or users' hands
- **crystal clear flux residues** to enhance the optical impression
- **lowest outgassing and neutral odour** reduces the workplace exposure
- **easily removable flux residues on the solder iron tips;** these can be removed with conventional methods (FELDER Tinner, soldering sponge, metal wool)
- **100MΩ-test passed** - also applicable in assembly manufacturing
- **The durability of the solder iron tips is considerably extended**

Solder Alloys

Alloy	DIN EN ISO 9453:2014	DIN EN 61190	Melting range	Item-No.
Sn100Ni+ * (SnCu0.7AgNiGe)	Sn99.25Cu0.7Ni0.05(Ge)	Sn99Cu7	227° C	555294....
SN100C* (SnCu0.7Ni)	Sn99.25Cu0.7Ni0.05	Sn99Cu7	227° C	565294....
Sn99Ag+ * (SnCu0.7Ag0.3NiGe)	Sn99Cu0.7Ag0.3(NiGe)	-	217 - 227° C	555281....
Sn96.5Ag3Cu0.5	Sn96.5Ag3Cu0.5	Sn96Ag03Cu0.4	217 - 219° C	5276....
Sn95.5Ag3.8Cu0.7	Sn95.5Ag3.8Cu0.7	Sn96Ag04Cu0.7	217° C	5284....
Sn95Ag5	Sn95Ag5	-	221 - 240° C	5292....
Sn99.3Cu0.7	Sn99.3Cu0.7	Sn99Cu7	227° C	5294....
Sn97Cu3	Sn97Cu3	-	230 - 310° C	5297....
Sn96.5Cu2Sb1Ag0.5	-	-	not known	5277....

Further lead-free alloys are deliverable on customer's request.

Patents

*FELDER GMBH produces all NiGe-alloys with the licence for the Fuji-patents (JP 3296289, USP 6.179.935 B1 and DE 198 16 671 C2) as well as for the Nihon Superior patents (DE 69918758 and EP 0985486).

Tolerances / Impurities according to EN ISO 9453:2014

e.g.: SAC 305

Element	Ag	Al	As	Bi	Cd	Cu	Fe
Content (%)	3.0± 0.2	0.001	0.03	0.1	0.002	0.5± 0.2	0.02
Element	Pb**	Sb	Sn	Zn			
Content (%)	0.07	0.1	rest	0.001			

e.g.: Sn100Ni+

Element	Ag	Al	As	Bi	Cd	Cu	Fe
Content (%)	0.06	0.001	0.03	0.1	0.002	0.7± 0.2	0.02
Element	Ge	Ni	Pb**	Sb	Sn	Zn	
Content (%)	0.01±0.002	0.07±0.02	0.07	0.1	rest	0.001	

**The maximum lead content in FELDER electronic solder wires is 0.05 %.

Properties

Copper mirror test

acc. to IPC-TM-650, 2.3.32: passed (no mirror brake through)

Corrosion test

acc. to IPC-TM-650, 2.6.15: no corrosion

SIR-test

acc. to IPC-TM-650, 2.6.3.3: > 100 MΩ at 85° C / 85 % RH, 168 h

Migration test:

no e-corrosion

Flux content:

2.2 %, 3.5 % (standard)

Halide content:

approx. 0.1% (in the flux residues)

Flux distribution:

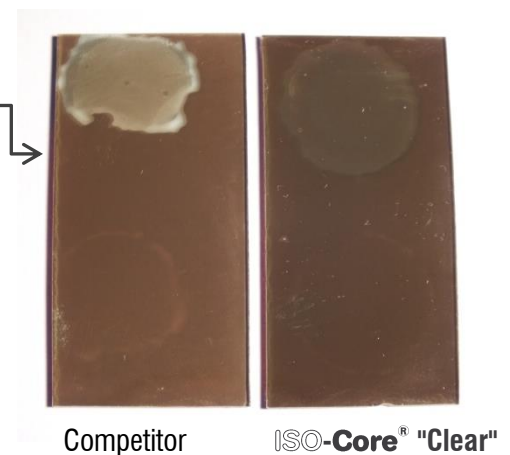
single-cored

Ø in mm:

0.25, 0.35, 0.50, 0.75, 1.00, 1.50, 2.00

Spool sizes in kg:

0.10, 0.25, 0.50, 1.00, 2.50, 5.00



Cleaning

The water clear solid flux residues, classified as REL1, do also not cause corrosion at non-ferrous metals. Therefore they may remain on the soldering joint.

Advice

Lead-free FELDER-ISO-Core® "Clear" solder wires do not contain any substances that are subject to restriction by directive 2011/65/EU ("RoHS").

We will be pleased to produce all solder wires according to your factory standards.

Storage

Store dry and as far as possible dust-free. Minimum durability: 60 months.

Handling Advice

Please refer to the corresponding EC material safety data sheet.