



• [Product Catalog](#)



## • ELSOLD® Table of contents

ELSOLD®	<b>Editorial</b>	■	Page 01
ELSOLD®	<b>Service and Certification</b>	■	Page 02
ELSOLD®	<b>Product Range</b>	■	Page 03
ELSOLD®	<b>Cored Solder Wires with lead</b>	■	Page 04
ELSOLD®	<b>Cored Solder Wires, lead free</b>	■	Page 05
ELSOLD®	<b>Cored Solder Wires, lead free C3 Plus</b>	■	Page 06
ELSOLD®	<b>Bars and Ingots with lead</b>	■	Page 07
ELSOLD®	<b>Bars and Ingots, lead free</b>	■	Page 08
ELSOLD®	<b>Solid Wires with lead</b>	■	Page 09
ELSOLD®	<b>Solid Wires, lead free</b>	■	Page 10
ELSOLD®	<b>Solder Paste with lead</b>	■	Page 11
ELSOLD®	<b>Solder Paste, lead free</b>	■	Page 12
ELSOLD®	<b>Solder Paste, lead free AP-40</b>	■	Page 13
ELSOLD®	<b>Flux - Tacky Flux</b>	■	Page 14
ELSOLD®	<b>Flux</b>	■	Page 15
ELSOLD®	<b>Rework Flux</b>	■	Page 16
ELSOLD®	<b>Flux Solar Industry</b>	■	Page 18
ELSOLD®	<b>Cleaner and Accessories</b>	■	Page 19
ELSOLD®	<b>Order form</b>	■	Page 20



## • ELSOLD® Editorial

ELSOLD GmbH & Co. KG is one of the world's leading manufacturers of lead, tin and corresponding alloys. Experts and customers appreciate our company as a competent and reliable partner.

Today the Goslar site, where lead ore has been mined for more than 1000 years, offers a unique wealth of expert metallurgical knowledge and Know-How.

As an established result, our business unit ELSOLD® with more than 50 years experience has the largest scope of innovative soldering products worldwide. We supply customers throughout the electronic and solar industries.

ELSOLD® brand innovative soldering products fulfil the highest demands in modern electronic connection technology. Even in the initial design stages, we provide for all legal requirements, engineer and international standards.

In order to expand our international top position, we are in close contact with our customers: knowing their needs enables us to optimize our products. We combine traditional knowledge and Know-How with the latest scientific expertise.

Our ambitions for the years coming are quite clear: ELSOLD® will continue to develop and produce top quality innovative soldering products, customized to new technologies and production technique.

We are a company with a long tradition, we think local and act global. Our focus with all our activities is a long-term relationship with customers, partners and employees.

Join us into a future where ever growing challenges inspire top quality products.



## • ELSOLD® Service | ELSOLD® Certification

### Delivery Service

ELSOLD®'s entire product range is produced in Goslar. This results in short delivery times allowing us to provide JIT deliveries on special customer request.

### Technical support and application advice

In order to assure the quality of our customers finished products, we attach great importance to providing advice and support. Selecting the right soldering products and processing parameters with regard to the customers' production equipment and environmental issues is crucial for us.

### Change-over to lead-free materials

The change-over to lead-free materials creates costs and triggers questions about the reliability and difficulties of lead-free material. We are pleased to offer our experience from successful change-over processes already implemented in our customer base. Join us as partner when it comes to a need of competent answers to commercial and technical queries.

### Internet Service

Download technical data sheets for all important solder products from our website [www.elsold.de](http://www.elsold.de)

### Solder bath analysis

ELSOLD® analyses submitted samples. The customer is informed about the level of impurities with a recommendation as how to proceed for further operation.

### Disposal of used soft soldering material

We dispose of your unusable old material (like "Dross") at fair conditions.

### ELSOLD® Certification

ELSOLD® production process complies with the quality management standard ISO TS 16949. Certification for this comprehensive directive for the automotive industry was achieved in September 2007 and is still valid.

Certificate – Registration – No. 236773QM08

ELSOLD® products fulfil the standards ISO 9453:2006, DIN EN 29453 and 29454, DIN EN 61190 1-1 to 1-3, the key international standards and the ELSOLD® works standards which are not covered by any official standard.

Selected ELSOLD® soft solders fulfil the ESA soldering standard ECSS-Q-70-71A. All spacecraft launched into space by ESA (European Space Agency) are soldered with ELSOLD® soft solders because of their high quality, high reliability and long service life.

Certificate no. ECSS – Q – 70 – 71A Rev. 1.

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## ELSOLD® Cored Solder Wires – general information

Cored solder wire – the oldest solder medium – has been used for many years in the electronic industry. Cored solder wire permits the simultaneous application of solder and flux to the soldering point. Despite development of solder paste which serves the same purpose, cored solder wire has defended its position. It is still preferred for applications such as manual and repair soldering processes and automatic soldering (robot process).

ELSOLD® cored solder wire is available in many types and

is unchallenged because of its variety.

Besides the purity of the base metals, the particular innovation is the constant adaptation of solder paste composition to production parameter and process. Rosin and activator must be adapted to higher or changed process temperatures.

ELSOLD® produces top quality Cored Solder wires by choosing suitable flux constituents along with strictly monitored production conditions.

## ELSOLD® Cored Solder Wired – Flux types

Flux type	Application
A3	For applications requiring active flux effective on brass, nickel, bronze
C3	Halide free flux for all electronic applications
E1	Extremely temperature stable and splatter-free
3064   3064 BF	For difficult soldering processes, also effective on brass, nickel, bronze
H	Based on carbamide, very effective flux without resin, e.g. for manufacture of transformers and capacitors
T	For heavily oxidised surfaces, resin-free, halogen-activated. Used in the electric bulb industry
FS-28	Strongly activated, halide-free flux for demanding solder work, reduced resin content and low residue
105-19	Resin-free, halogenated, very active, low residue

The list above shows a selection of our most sought-after products.

Of course you can order your alloy with the flux you require.

For custom-made orders, the flux fraction can be selected from 0.5% to 4.5% in steps of 0.5%.

Special dimensions available on request

- Standard coil sizes: 0.10 kg / 0.25 kg / 0.50 kg / 1.00 kg
- Special coil sizes (e.g. 2.5 kg up to 20 kg) available on request
- All cored solder wires are available with a diameter of 0.3 mm upwards
- Diameters are subject to standard tolerances as per DIN 12224-1
- Single or multi-core possible



## ELSOLD® Cored Solder Wires

ELSOLD® is one of the leading manufacturers of high quality solder products for all noted processes, including solar technology. ELSOLD® cored solder wires are available in a variety of alloys combined with highly efficient fluxes. The special combination of proven activators and first-class

wetting properties guarantee the very best soldering quality in automatic and manual soldering processes. This also applies to soldering processes in solar technology.

### • ELSOLD® Cored Solder Wires with lead

Alloy	Melting Range [°C]	Ø [mm]	Spool sizes [kg]	Flux		DIN EN		Halide content [%]	No Clean	Order number
				-content [%]	-type	29454	61190-1-1			
Sn60Pb39Cu1	183-190	1.00	1	3.5	A3	1.1.2	ROH1	0.75	✓	EL01 1421
Sn60Pb39Cu1	183-190	1.00	1	3.5	C3	1.1.3	ROM0	0	✓	EL01 0913
Sn60Pb39Cu1	183-190	2.00	1	3.5	H	2.1.3	ORM0	0	✓	EL01 1742
Sn60Pb39Cu1	183-190	1.50	1	2.2	3064	1.1.2	ROM1	1.15	✓	EL01 5103
Sn60Pb39Cu1	183-190	1.00	0.50	2.2	3064	1.1.2	ROM1	1.15	✓	EL01 5122
Sn60Pb40	183-190	0.75	1	2.2	3064	1.1.2	ROM1	1.15	✓	EL01 5101
Sn60Pb40	183-190	0.75	1	3.5	C3	1.1.3	ROM0	0	✓	EL01 2139
Sn60Pb40	183-190	0.50	1	3.5	A3	1.1.2	ROH1	0.75	✓	EL01 2275
Sn63Pb37	183	1.00	1	3.5	C3	1.1.3	ROM0	0	✓	EL01 2483
Sn63Pb37	183	1.00	1	2.2	3064	1.1.2	ROM1	1.15	✓	EL01 5158
Sn62Pb36Ag2	179	0.75	0.50	2.2	3064	1.1.2	ROM1	1.15	✓	EL01 5224
Sn60Pb36Ag4	178-180	1.00	1	3.5	C3	1.1.3	ROM0	0	✓	EL01 3425
Pb91Sn8Sb1	280-305	0.80	1	2.5	C2	1.1.3	ROM0	0	✓	EL01 2606
Pb91Sn8Sb1	280-305	1.00	1	1.0	FS-28	1.1.3	ROL0	0	✓	EL01 4757

Picture: Cored Solder Wires with lead delivery forms



1000 g

500 g

250 g

Picture: Cored Solder Wires lead free delivery forms



1000 g

500 g

250 g





**Highlight** **NEW! Lead-free Solder wire “E1” containing flux**



- splatter-free
- longer holding time of soldering tip
- reduction of copper de-alloying
- for all soldering applications
- non-corrosive flux residues
- thermally stable flux
- excellent soldering properties
- fulfils all global standards



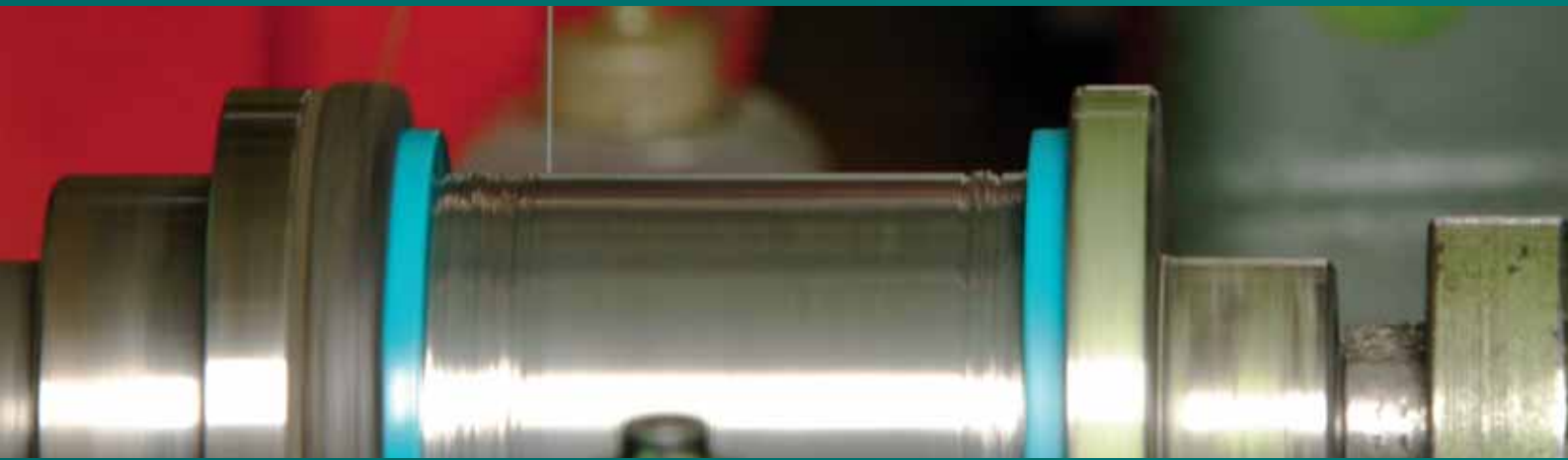
• **ELSOLD® Cored Solder Wires, lead-free**

Alloy	Melting Range [°C]	Ø [mm]	Spool sizes [kg]	Flux		DIN EN		Halide content [%]	No Clean	Order number
				- content [%]	- type	29454	61190-1-1			
Sn99.3Cu0.7	227	1.00	1.00	2.2	3064BF	1.1.2	ROM1	1.20	✓	EL02 5283
Sn99.3Cu0.7	227	0.75	1.00	2.5	C3	1.1.3	ROM0	0	✓	EL02 5416
Sn99.3Cu0.7	227	0.75	1.00	3.5	A3	1.1.2	ROH1	0.75	✓	EL02 0014
Sn99.3Cu0.7	227	0.60	0.50	1.5	105-19	2.2.2	ORM1	< 2.00	✓	EL02 5399
Sn99.3Cu0.7MA	227	0.75	0.50	2.5	E1	1.1.3	ROM0	0	✓	EL02 0008
Sn99.3Cu0.7MA	227	0.50	1.00	2.5	E1	1.1.3	ROM0	0	✓	EL02 6102
Sn97Cu3	230-250	2.00	3.50	2.0	T	2.2.2	ORM1	< 2.00		EL02 6011
Sn95Sb5	230-240	1.00	1.00	3.5	C3	1.1.3	ROM0	0	✓	EL02 3466
Sn97Ag3	221-230	1.00	1.00	2.2	3064BF	1.1.2	ROM1	1.20	✓	EL02 0010
Sn96.5Ag3Cu0.5	217-219	1.00	1.00	2.2	3064BF	1.1.2	ROM1	1.20	✓	EL02 5444
Sn96.5Ag3Cu0.5	217-219	1.00	1.00	2.5	C3	1.1.3	ROM0	0	✓	EL02 5545
Sn96.5Ag3Cu0.5	217-219	0.30	0.25	2.5	C3	1.1.3	ROM0	0	✓	EL02 6046
Sn95.8Ag3.5Cu0.7	217	1.00	1.00	3.5	C3	1.1.3	ROM0	0	✓	EL02 5508
Sn95.8Ag3.5Cu0.7	217	0.75	1.00	2.2	3064	1.1.2	ROM1	1.15	✓	EL02 5370

All lead-free alloys are available as ELSOLD® MA® (micro-alloyed)

- Your advantages:**
- fine-grained structure facilitates visual inspection
  - low de-alloying of copper allows lead-free tinning of thin wires and circuit paths, multiple joints and repairs
  - Significant cost saving though low chemical attack on material soldering tips and equipment





### Highlight



## “No-clean” Halide-free Flux Cored Solder wire “C3 Plus” Lead Free

- quick wetting
- low elastic residues
- non-corrosive flux residues
- short soldering time
- reduced copper erosion
- thermal stable flux
- fulfil all global standards
- for all soldering applications
- excellent solderability
- shiny solder joints

Alloy	Melting Range [°C]	Flux		DIN EN		No Clean
		-content [%]	-type	29454	61190-1-1	
Sn99.3Cu0.7	227	**	C3+	1.1.3	ROM0	✓
Sn97Cu3	230-250	**	C3+	1.1.3	ROM0	✓
Sn95Sb5	230-240	**	C3+	1.1.3	ROM0	✓
Sn97Ag3	221-230	**	C3+	1.1.3	ROM0	✓
Sn96.5Ag3Cu0.5	217-219	**	C3+	1.1.3	ROM0	✓
Sn95.8Ag3.5Cu0.7	217	**	C3+	1.1.3	ROM0	✓

- Standard coil sizes:  
0.10 kg / 0.25 kg  
0.50 kg / 1.00 kg

- Special coil sizes  
(e.g. 2.5 kg up to 20 kg)  
available on request

- All cored solder wires are  
available with a diameter  
of 0.3 mm upwards

- Diameters are subject to  
standard tolerances as per  
DIN 12224-1

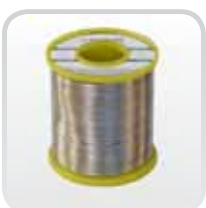
- Single or multi-core possible

The list above shows just a selection of our products.

Of course you can order your alloy with the flux you require.  
Special diameters available on request

\*\*For custom-made orders, the flux fraction can be selected  
from 0.5% to 4.5% in steps of 0.5%.

Picture: Cored Solder Wires lead free delivery forms



1000 g



500 g



250 g







## ELSOLD® Bars and Ingots

Increasing miniaturisation, stricter requirements with regard to long-term reliability of complex electronic products, components and related extended performance features thereof make highest demands on soldering quality. ELSOLD® soft solders are therefore produced only from carefully selected

virgin-grade base metals. ELSOLD® soft solders cover the entire range of electronic applications: machine solders, high temperature solders, special solders (low-melting alloys, solders for static baths).

### • ELSOLD® Bars and Ingots with lead

Alloy	Melting Range [°C]	Operation temperature [°C]	Delivery Form	Dimensions [mm]	Weight [ca. kg]	Order number
Sn63Pb37P	183	240-260	Ingots	50x20x490	4.0	EL03 0129
Sn63Pb37P	183	240-260	Triangular bars	8/10x400	0.2	EL03 0017
Sn63Pb37P	183	240-260	Ingots	50x18x600	4.5	EL03 0133
Sn63Pb37	183	240-260	Ingots	50x20x490	4.0	EL03 0235
Sn63Pb37	183	240-260	Triangular bars	8/10x400	0.2	EL03 0393
Sn60Pb40P	183-190	240-260	Triangular bars	8/10x400	0.2	EL03 0013
Pb95Sn3Ag2	304-310	> 450	Triangular bars	8/10x400	0.2	EL03 0026
Pb95Sn3Ag2P	304-310	> 450	Triangular bars	8/10x400	0.2	EL03 0285
Pb92Sn8(Sb)	280-305	350-450	Triangular bars	8/10x400	0.2	EL03 0262
Bi50Pb31.3Sn.18.7	96	150-180	Wire	2/3x400	0.2	EL03 0192

Deoxidisation tablets, lead free, bottled	50 tablets	EL13 0042
Deoxidisation tablets, lead free, bottled	800 tablets	EL13 0043

Deoxidisation tablets (for solder baths with or without lead)

- To reduce dross formation
- The oxidation of the solder is slowed down by a very thin protective layer
- Recommended dosage: 3 to 5 tablets for every 10 kgs solder

Picture: Deoxidisation tablets delivery forms



Bottle  
50 tablets



Bottle  
800 tablets

Picture: Bars and Ingots delivery forms



Triangular bars



Extruded  
bars



Ingots





## Highlight Solder Bars, Triangular Bars and Ingots



- all alloys with or without lead
- highest purity, virgin grade
- excellent soldering and wetting properties
- minimal oxides
- minimal dross generation
- also available as micro-alloyed (SAC) SC



## • ELSOLD® Bars and Ingots, lead-free

Alloy	Melting Range [°C]	Operation temperature [°C]	Delivery Form	Dimensions [mm]	Weight [ca. kg]	Order number
Sn99.3Cu0.7	227	255-285	Triangular bars	8/10x400	0.2	EL04 0351
Sn99.3Cu0.7 MA	227	255-285	Triangular bars	8/10x400	0.2	EL04 6005
Sn99.3Cu0.7P	227	255-400	Triangular bars	8/10x400	0.2	EL04 0358
Sn96.5Ag3Cu0.5	217-219	255-285	Triangular bars	8/10x400	0.2	EL04 0403
Sn96.5Ag3Cu0.5	217-219	255-285	Ingots	20x20x335	1.0	EL04 6001
Sn95.5Ag3.8Cu0.7	217	255-285	Triangular bars	8/10x400	0.2	EL04 0374
Sn95.5Ag3.8Cu0.7	217	255-285	Ingots	50x20x490	3.0	EL04 0406
Sn97Ag3	221-232	255-285	Ingots	50x20x490	3.0	EL04 0397
Sn96.5Ag3.5	221	255-285	Triangular bars	8/10x400	0.2	EL04 0156
Sn96.2Ag3.8	221-238	255-285	Ingots	50x18x600	4.0	EL04 0411
Sn96.2Ag3.8	221-238	255-285	Triangular bars	8/10x400	0.2	EL04 0389
Sn96Ag4	221-238	255-285	Ingots	50x20x490	3.0	EL04 0419
Sn96.5Ag3.5P	221	255-320	Ingots	50x20x490	3.0	EL04 0408

- ELSOLD® alloys comply with standards DIN EN 29453, DIN EN 61190-1-3 and ELSOLD® own standards
- further forms available upon request, such as thick and wide rods, flat tapes, thin rods and bars, threads, solid wires etc.
- all alloys can be supplied in deoxidised form on request

### All lead-free alloys are available as ELSOLD® MA® (micro-alloyed)

- Your advantages:**
- fine-grained structure facilitates visual inspection
  - low erosion of copper allows lead-free tinning of thin wires and circuit paths, multiple joints and repairs
  - Significant cost saving through low chemical attack on material soldering tips and equipment



## ELSOLD® Solid Wires

Modern manufacturing technology, e.g. selective soldering, demands ultimate quality solid wires by using virgin grade base metals. ELSOLD® produces solid wires of highest purity. We guarantee consistent best product quality! Ongoing quality control of each and every production lot is recorded and filed. Our customers including the European Aerospace industry can fully rely on ELSOLD®, we are the only approved supplier of solid soft solder material with ECCS certification. (see page 2 ELSOLD® Certification).

Our modern production process permits the manufacture of all required alloys with or without lead and alloys for low and high temperature and also solder alloys for static baths for soft soldering processes in all areas of the electronic industry.

### • ELSOLD® Solid wires with lead

Alloy	Melting Range [°C]	Operation temperature [°C]	Ø [mm]	Weight [ca. kg]	Order number
Sn63Pb37	183	240-260	3	4	EL05 1055
Sn63Pb37P	183	240-260	6	10	EL05 6018
Sn63Pb37P	183	240-260	3	1	EL05 0911
Sn64Pb36P	183	240-260	3	1	EL05 0991
Sn60Pb39.86Cu0.14P (HTF)	183-190	240-260	1.5	1	EL05 0527
Pb95Sn3Ag2P	304-310	> 450	3	1	EL05 0960

The list above shows a selection of our most sought-after products. Of course you can order the alloy you require.

All standard alloys are also available as solid wire

- Diameters available up to 8.0 mm
- Special dimensions available on request
- Standard coil sizes: 250 g / 500 g / 1 kg / 4 kg / 10 kg / 25 kg

Picture: Solid wires with lead delivery forms



4 kg



10 kg



25 kg

## Highlight

### Solid wire



- all alloys with or without lead
- highest purity, virgin grade
- excellent soldering and wetting properties
- minimal oxides
- minimal dross generation
- also available as micro-alloyed (SAC) SC



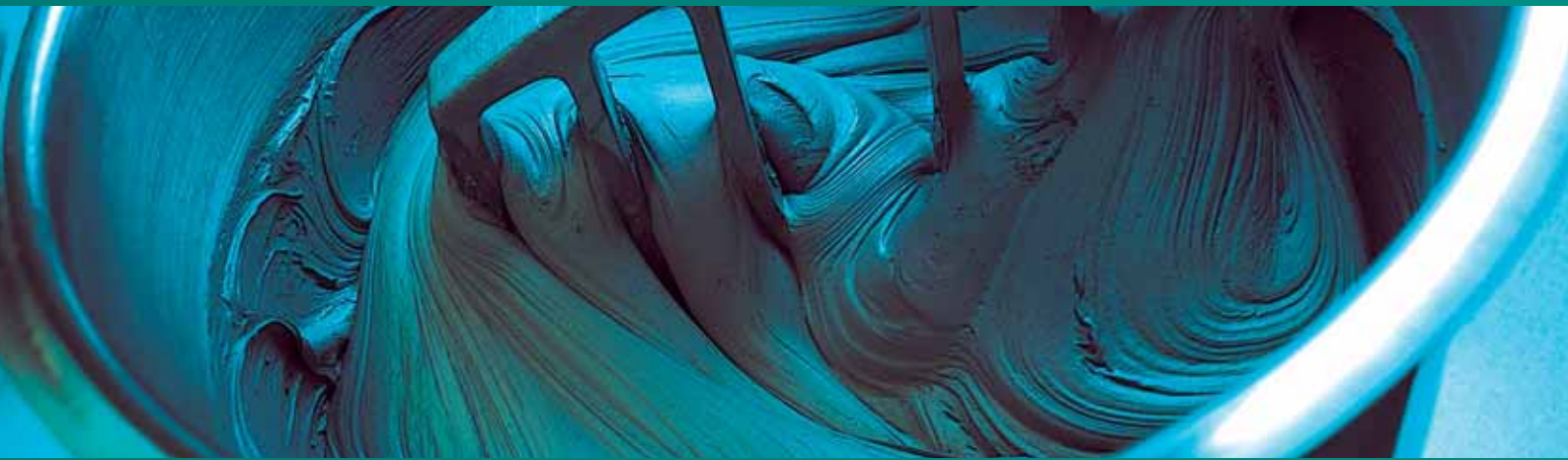
## • ELSOLD® Lead-free solid wires

Alloy	Melting Range [°C]	Operation temperature [°C]	Ø [mm]	Weight [ca. kg]	Order number
Sn99.3Cu0.7	227	255-285	3	5	EL06 1023
Sn99.3Cu0.7	227	255-285	1.5	1	EL06 1039
Sn99.3Cu0.7 MA	227	255-285	1.5	1	EL06 0006
Sn97Cu3	230-250	255-285	3	5	EL06 0598
Sn97Cu3	230-250	255-285	6	15	EL06 1086
Sn97Ag3	221-232	255-285	2	2.5	EL06 1012
Sn96.5Ag3.5	221	255-285	1.2	2.5	EL06 1067
Sn96.2Ag3.8	221-238	255-285	2	4	EL06 1076
Sn96.5Ag3Cu0.5	217-219	255-285	3	4	EL06 6019
Sn96.5Ag3Cu0.5	217-219	255-285	6	10	EL06 6003
Sn95.8Ag3.5Cu0.7	217	255-285	3	4	EL06 6023
Sn95.5Ag3.8Cu0.7	217	255-285	3	4	EL06 1034
Sn95.5Ag3.8Cu0.7	217	255-285	2	5	EL06 1029

All lead-free alloys are available as ELSOLD® MA® (micro-alloyed)

- Your advantages:**
- fine-grained structure facilitates visual inspection
  - low erosion of copper allows lead-free tinning of thin wires and circuit paths, multiple joints and repairs
  - Significant cost saving though low chemical attack on material soldering tips and equipment





## ELSOLD® Solder Paste

ELSOLD® solder paste particularly stands out due to excellent wetting behaviour over a wide range of temperature profiles. At the same time, the solder paste not only has best slump characteristics but also excellent adhesion. Storage and durability is not critical because it is a special and modified synthetic material. Further advantages: minimal shrin-

king, high printing speeds, high activity on all surfaces, useful for high speed printing. Repeatability, constant and excellent printing results, PCB by PCB.

ELSOLD® solder paste is suitable for closed rakel systems as well as for Fine Pitch printing.

### • ELSOLD® Solder Paste with lead

Alloy	Metal content [%]	Powder size [µm]	Melting range [°C]	Packaging	Weight [g]	Flux type	Order number
Sn63Pb37	90	25-45	183	Cartridge	1200	SM-388	EL07 0352
Sn63Pb37	90	25-45	183	Can	250	NWS-4200	EL07 0485
Sn63Pb37	90	25-45	183	Can	500	AP-10	EL07 0348
Sn63Pb37	90	25-45	183	Cartridge	600	AP-10	EL07 0503
Sn62Pb36Ag2	87	25-45	179	Syringe	35	AP-10	EL07 0330
Sn62Pb36Ag2	90	25-45	179	Can	250	AP-10	EL07 0502
Sn62Pb36Ag2	90	25-45	179	Cartridge	1200	SM-388	EL07 0002
Sn62Pb36Ag2	87.5	25-45	179	Can	500	AP-10	EL07 0506
Sn62Pb36Ag2	90	25-45	179	Can	500	NC-559 AS	EL07 0404
Sn62Pb36Ag2	88	25-45	179	Can	500	NC-559 AS	EL07 0483
Sn62Pb36Ag2	87	25-45	179	Syringe	100	NC-559 AS	EL07 0482
Sn62Pb36Ag2	90	25-45	179	Can	500	RMA-223 AS	EL07 0428
Sn62Pb36Ag2	90	25-45	179	Can	250	NWS-4200	EL07 0439
Pb92.5Sn5Ag2.5	90	25-45	287-296	Can	250	AP-10	EL07 0507
Sn62Pb36Ag2/Sn63Pb37	90	25-45	179-183	Cartridge	1200	SM-388	EL07 0356

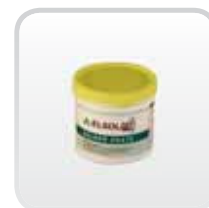
- Flux classification as per DN EN 61190-1-1
- Available powder types: 3 / 4 / 5 / 6 on request
- Various metal levels available depending on the required viscosity

Delivery forms:	Syringes	10 cc / 30 cc
	Cans	250 g / 500 g
	Cartridges	600 g / 1.2 kg
	Pro-Flow Cassettes	750 g

Picture: Solder Paste delivery forms



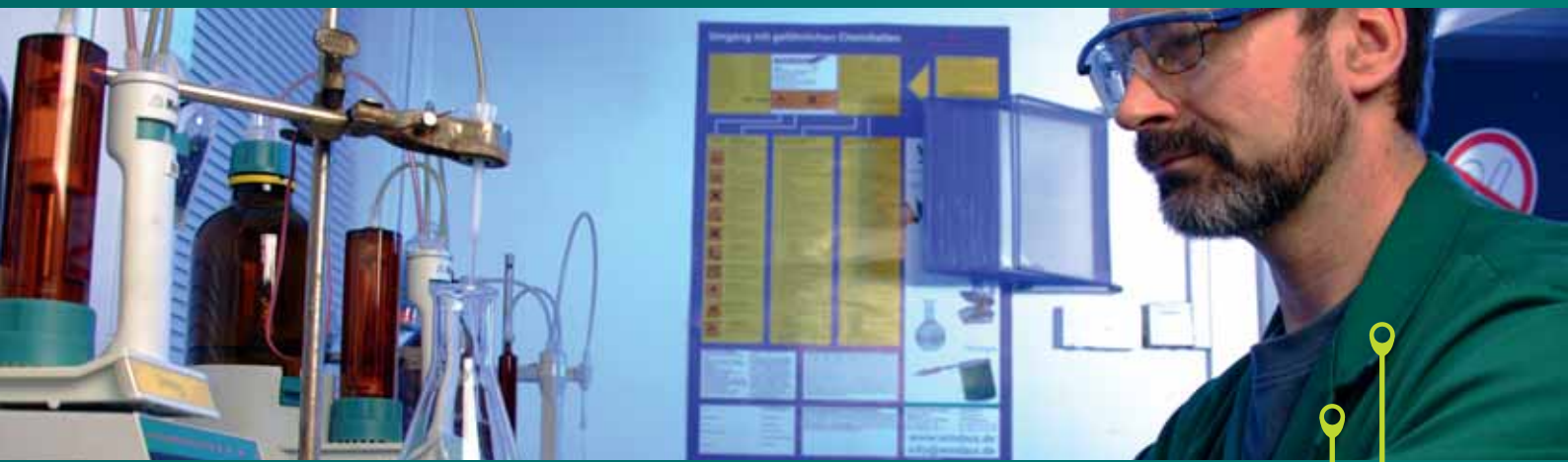
Syringes and Cartridges



Cans



Pro-Flow Cassettes



**Highlight** **NEW! LF Solder Paste AP-20**



- Grain size T3 [45µm] up to T6 [15µm]
- non-corrosive residues, halogen-free
- excellent wetting properties in air and nitrogen atmosphere

- stable viscosity for more than 70 days at room temperature
- Tack Time > 48 hours, high thermal stability



**• ELSOLD® Solder Paste, lead-free**

Alloy	Metal content [%]	Powder size [µm]	Melting range [°C]	Packaging	Weight [g]	Flux type	Order number
Sn96.5Ag3Cu0.5	88	25-45	217-219	Cartridge	1200	SM-388	EL08 0339
Sn96.5Ag3Cu0.5	88	25-45	217-219	Can	500	SM-388	EL08 0333
Sn96.5Ag3Cu0.5	88	25-45	217-219	Can	500	Syntech-LF	EL08 0357
Sn96.5Ag3Cu0.5	87.5	15-25	217-219	Can	500	AP-20	EL08 0016
Sn96.5Ag3Cu0.5	88	05-15	217-219	Can	500	AP-20	EL08 0023
Sn96.5Ag3Cu0.5	88.5	25-45	217-219	Can	500	AP-20	EL08 0011
Sn96.5Ag3Cu0.5	86	25-45	217-219	Syringe	35	SM-388	EL08 0363
Sn96.5Ag3Cu0.5	86	25-45	217-219	Syringe	100	SM-388	EL08 0603
Sn96.5Ag3Cu0.5	88	25-45	217-219	Can	500	AP-20	EL08 0007
Sn96.5Ag3Cu0.5	88	25-45	217-219	Cartridge	1200	SM-388	EL08 0339
Sn96.5Ag3Cu0.5 (MA)	88	20-38	217-219	Can	500	AP-20	EL08 0020
Sn95.5Ag3.8Cu0.7	88	25-45	217	Can	500	SM-388	EL08 0009
Sn99.3Cu0.7	88	25-45	227	Can	500	AP-20	EL08 0508
Sn96.5Ag3Cu0.5 / Bi58Sn42	87	25-45	188-192	Syringe	100	SM-388	EL08 0608
Bi57Sn42Ag1	86.5	25-45	139	Syringe	35	AP-10	EL08 0602

**All lead-free alloys are available as ELSOLD® MA® (micro-alloyed)**

- Your advantages:**
- fine-grained structure facilitates visual inspection
  - low de-alloying of copper allows lead-free tinning of thin wires and circuit paths, multiple joints and repairs
  - Significant cost saving though low chemical attack on material soldering tips and equipment
  - excellent printing properties, for standard and high speed applications (Chip shooter)



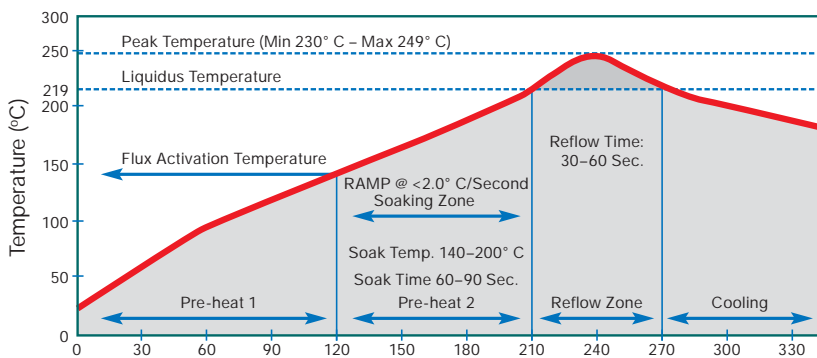
## Highlight



## LF Solder Paste „Advanced Paste 40“ [AP-40]

- storing at constant room temperature
- stable viscosity for more than 3 months at room temperature
- high durability (open time) for more than 72h at room temperature
- Tack Time > 5 days, at room temperature
- micro alloyed (SAC) SC
- Grain size T3 [45µm] to T6 [15µm]
- non-corrosive residues, halide-free
- excellent wetting properties in air and nitrogen atmosphere

Alloy	Metal content [%]	Powder size [µm]	Melting range [°C]	Packaging	Weight [g]	Flux type	Flux class
Sn96.5Ag3Cu0.5	88	25-45	217-219	*see delivery forms		AP-40	RELO
Sn96.5Ag3Cu0.5	86	25-45	217-219	*see delivery forms		AP-40	RELO
Sn96.5Ag3Cu0.5 (MA)	88	20-38	217-219	*see delivery forms		AP-40	RELO
Sn95.5Ag3.8Cu0.7	88	25-45	217	*see delivery forms		AP-40	RELO
Sn99.3Cu0.7	88	25-45	227	*see delivery forms		AP-40	RELO



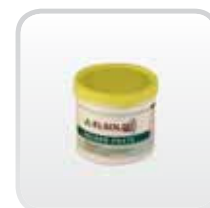
- Flux classification as per DN EN 61190-1-1
- Available powder types: 3 / 4 / 5 / 6 on request
- Various metal levels available depending on the required viscosity

Picture: Solder Paste delivery forms

\*Delivery forms: Syringes 10 cc / 30 cc  
 Cans 250 g / 500 g  
 Cartridges 600 g / 1.2 kg  
 Pro-Flow Cassettes 750 g



Syringes and Cartridges



Cans



Pro-Flow Cassettes



## ELSOLD® Flux

ELSOLD® supplies a complete range of high-quality fluxes, specially manufactured to meet the toughest industry requirements. In addition to the solder alloy, the most important factor in ensuring a soldering process of a consistently high quality is the flux.

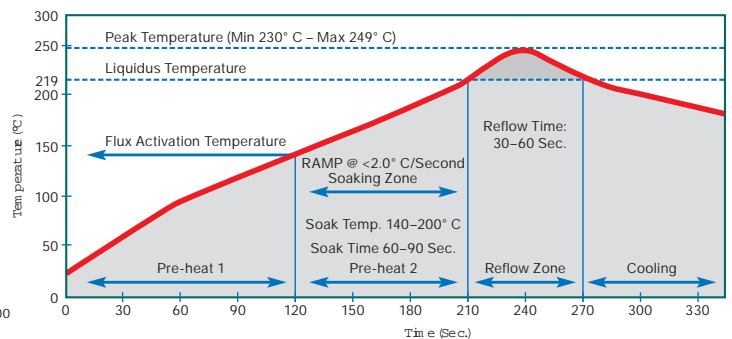
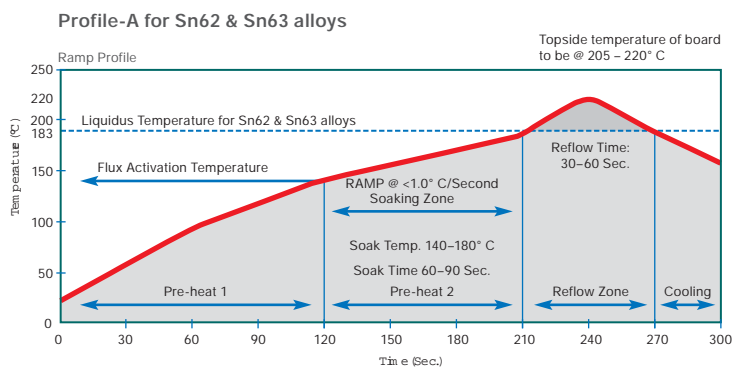
It must prepare the surface to be soldered for the actual soldering process as well promote wetting. Furthermore, following soldering the flux should have largely evaporated - without leaving behind any resistance-lowering or corrosive residues on the circuit boards.

### • ELSOLD® Paste Flux - Tacky Flux

The pasty fluxes (Tacky Flux) from ELSOLD® are suitable for a wide range of applications in electronics manufacturing. Pasty fluxes combine the advantages of SMD adhesives and fluxes. Thanks to their good adhesive properties the components are held in position until the soldering process. The fluxes are effective with existing solder depots, however additional solder can also be introduced, e.g. in wire form.

Our fluxes can be applied by means of dispensers, screen or template printing as well as by immersion or tampon and brush application. The flux is highly adhesive, has excellent wetting properties, a broad process window and a high degree of compatibility with all standard circuit board surfaces. It is also perfect for all "rework applications".

Flux	Flux type	DIN EN 61190-1-1	Packaging [cc]	Application	Order number
AP-10	no clean	ROM1	10	Lead and high lead content solder	EL09 0040
AP-20	no clean	RELO	10	Lead-free solder, especially reliable	EL09 0057
NC 559AS	no clean	RELO	10	especially light residue	EL09 0032
SM 388	no clean	RELO	10	Lead-free & lead-containing processes	EL09 0039
NWS 4200	water soluble	REMO	10	Can be washed off with water	EL09 0006

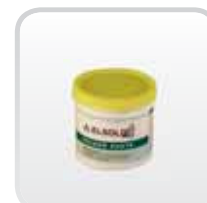


Picture: Flux delivery form

Delivery forms: Syringes 10 cc / 30 cc  
 Cans 90 g / 180 g  
 Cartridges 150 g



Syringes and Cartridges



Cans

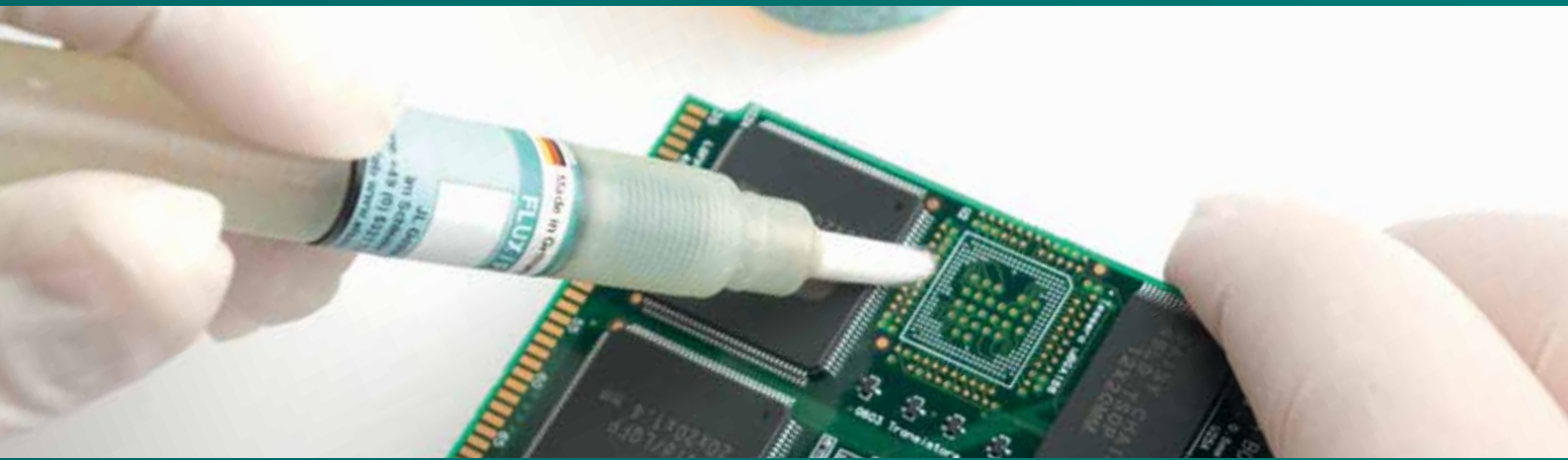






## • ELSOLD® Flux

Flux	Container [l]	Solid content [%]	Flux Basis	Flux Basis	DIN EN 61190-1-1	Application	Order number
1003NC	10	5.9	Rosin-free Organic	Solvent-based	ORL0	Tinning of cables in dip soldering process	EL10 0055
1004NC	20	2.0	Rosin-free Organic	Solvent-based	ORL0	Tinning of cables in dip soldering process, General electronics	EL10 0108
2000NC	20	2.9	Contains rosin, Organic	Solvent-based	ORL0	General electronics	EL10 0040
2000M NC	20	2.9	Contains rosin, Organic	Solvent-based	ORL0	General electronics, Automotive electronics Telecom; standard and lead-free solder alloys	EL10 0110
2001NC	20	2.6	Contains rosin, Organic	Solvent-based	ORL0	Wave soldering of lead-free alloys. Low residue level.	EL10 0116
2001NC	10	2.6	Contains rosin, Organic	Solvent-based	ORL0	Wave soldering of lead-free alloys. Low residue level.	EL10 0115
2001M NC	20	1.9	Organic	Solvent-based	ORL0	General electronics	EL10 0013
3002M NC	20	2.9	Organic	Water-based VOC-free	ORL0	General electronics, Automotive electronics, Telecom; standard and lead-free solder alloys, Sprayflux	EL10 0109
3003NC	20	2.9	Organic	Water-based VOC-free	ORL0	Wave soldering of lead-free alloys. Low residue level.	EL10 0117
Flussmittel 045	10	17/45	Rosin-based	Solvent-based	ROL0	General electronics	EL10 0091
Flussmittel 110	20	6.2	Contains rosin,	Solvent-based	ORL0	General wave soldering	EL10 0002
Flussmittel 177	10	45	Contains rosin,	Solvent-based	ROL0	General electronics	EL10 0003
Flussmittel 356	20	17	Rosin-based halide-free	Solvent-based	ROL0	General electronics, drag soldering, dip soldering, wave soldering of printed circuit boards	EL10 0006



## Highlight



## Rework Flux Solutions!

ELSOLD supplies a complete range of high-quality fluxes, specially manufactured to meet the toughest industry requirements.

In addition to the solder alloy, the most important factor to ensure a solder rework process of a consistent and reliable quality is the flux. It must prepare the surface to be soldered for the actual rework process and promote proper wetting.

Furthermore, following reflow the flux should have evaporated without leaving any resistance-lowering or corrosive residues on the circuit boards.



## ELSOLD® Rework Flux

Name	DIN EN 61190-1-1	Acid number	Packaging	Order number
ELSOLD® 200R	ORL0	24 mg KOH/g	Flux Pen	EL10 0078
ELSOLD® 200R	ORL0	24 mg KOH/g	Flux Bottle 25 ml	EL10 0079
ELSOLD® 400R	ROL0	70 mg KOH/g	Flux Pen	EL10 0080
ELSOLD® 400R	ROL0	70 mg KOH/g	Flux Bottle 25 ml	EL10 0081

Test Method	Test Results	IPC-Test Method
Copper Mirror Test	Pass	IPC-TM-650 2.3.32
Silver Chromate Paper Test	Pass	IPC-TM-650 2.3.33
Halide, quantitative	0,0%	IPC-TM-650 2.3.35
SIR Test	Pass	IPC-TM-650 2.6.3.3
Corrosion Test	Pass	IPC-TM-650 2.6.15

Picture: Rework Flux delivery forms



Flux Pen



Flux Pen,  
Flux Bottle



Flux Bottles





## Highlight



## Rework Flux Solutions!

The pasty fluxes from ELSOLD® (gel flux / tacky flux) like AP 40, are suitable for a wide range of rework applications. Pasty fluxes combine the advantages of SMD\* adhesives and fluxes. Due to this fact the components are held in position until the rework process is finished. The fluxes are effective with existing solder depots as well as the separate dispensing of solder. The flux is highly adhesive, has excellent wetting properties, a broad process latitude

and a high degree of compatibility with all standard circuit board surfaces e.g. perfect for Rework-Applications. This applies to leaded and lead free alloys and processes.

\* SMD-Surface Mounted Device

## • ELSOLD® Pasty Rework Flux

Name	DIN EN 61190-1-1	Viscosity	Packaging	Order number
ELSOLD® AP-40	RELO	150 Pa.s	Syringe 5 ccm	EL09 0003
ELSOLD® AP-40	RELO	150 Pa.s	Syringe 10 ccm	EL09 0012
ELSOLD® AP-40	RELO	150 Pa.s	Jar 250 ccm	EL09 0013
ELSOLD® FRA-01	Flux remover for printed circuit boards		Spray can 0.4 l	EL12 0003

Test Method	Test Results	IPC-Test Method
Copper Mirror Test	Pass	IPC-TM-650 2.3.32
Silver Chromate Paper Test	Pass	IPC-TM-650 2.3.33
Halide, quantitative	0,0%	IPC-TM-650 2.3.35
SIR Test	Pass	IPC-TM-650 2.6.3.3
Corrosion Test	Pass	IPC-TM-650 2.6.15

Picture: Pasty Rework Flux delivery forms



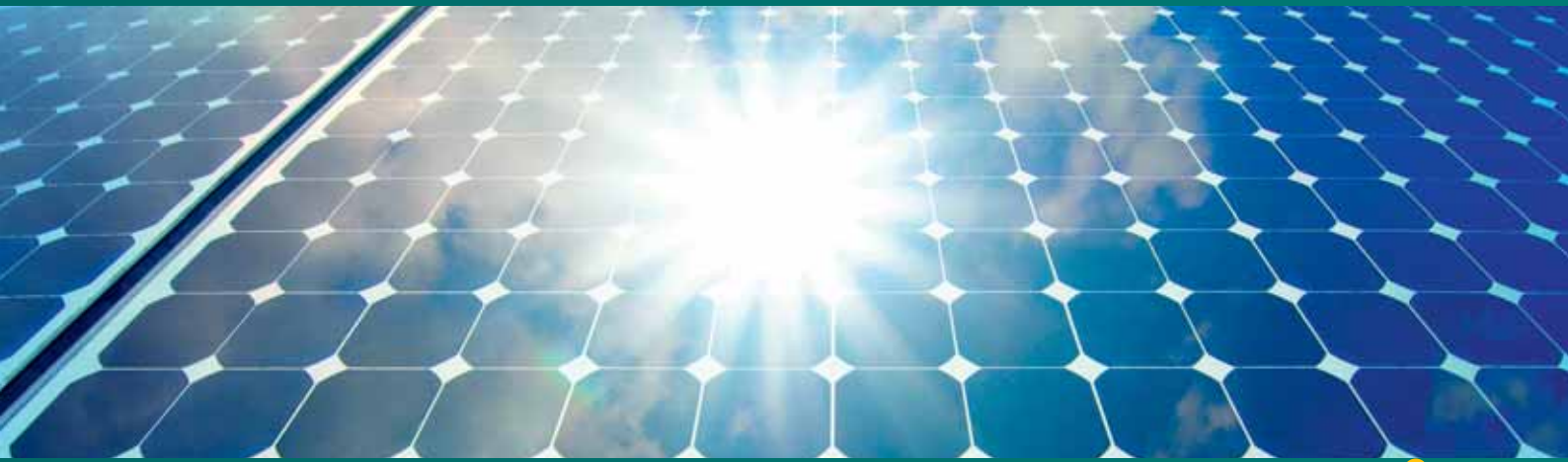
Syringe 5 ccm & Syringe 10 ccm



Refill jars



ELSOLD® Cleaner Spray cans



## Highlight New Flux for the Solar Industry



- particularly developed for solar module production
- all fluxes are halide-free
- approved by notable manufacturers



## • ELSOLD® Flux - Solar Industry

Flussmittel	Container [l]	Solid content [%]	Product description	Product description	DIN EN 61190-1-1	Use	Order number
1004S	10	2	Rosin-free Organic	Solvent-based	ORL0	Soldering processes in the solar industry	EL11 0119
2001S	10	1.7	Organic	Solvent-based	ORL0	Soldering processes in the solar industry	EL11 0120
3003S	10	2	Rosin-free Organic	Water-based	ORL0	Soldering processes in the solar industry	EL11 0121

Picture: Delivery forms Flux



20 l canister



10 l canister



5 l canister





## ELSOLD® Cleaner

PCB cleaning or the cleaning of populated circuit boards involves the removal of flux residue from circuit boards, hybrids and DCBs. Although the so called "no clean" procedure has established itself for numerous production processes in the low-end sector, cleaning, especially in the case of high-end subassemblies, is still indispensable.

Based on our years of experience, we are able to supply our customers with a complete program of cleaning agents for the cleaning of subassemblies, templates and tools as well as DCBs and power modules. With our globally leading cleaning agents - aqueous, solvent-based and aqueous-alkaline - you will find the best, most economical and environmentally friendly solution for all your processes.

They can remove, amongst other things, flux from lead based soldering, solder paste from templates, burnt-in flux in soldering machines and soldering carriers, adhesive residue and thick-film paste. The cleaning process is often unavoidable and forms the basis for further production steps. It assists in preventing errors, e.g. during wire bonding and the bonding of molded chips. Furthermore, you can prevent paste printing errors, corrosion, electrochemical migration and creepage current, as well as avoiding the contamination of subassemblies in the soldering machines.

Through the use of modern ELSOLD® cleaning products the above named problems can be solved, i.e. avoided right from the start.

### • ELSOLD® Cleaner

Cleaner	Container	Content [l]	Product basis	Application	Order number
WBI-01	Plastic container	5.0	Water-based cleaner with corrosion inhibitor	Ultrasound	EL12 0001
WXS-01	Plastic container	5.0	Water-based cleaner for templates, carriers and PCBs	Ultrasound/rinsing	EL12 0002
FRA-01	Spray can	0.4	Flux remover for printed circuit boards	manual	EL12 0003
SSC-01	Spray bottle	0.5	Screen and template cleaner	manual	EL12 0004
SSW-01	Plastic container with cleaning cloths	100 Pcs.	Screen and template cleaning cloths	manual	EL12 0005

Picture: Cleaner delivery forms



Cleaning cloths



Spray cans



Spry bottles



5 l containers

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EL _ _ _ _ _		
EL _ _ _ _ _		

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Radiation protection



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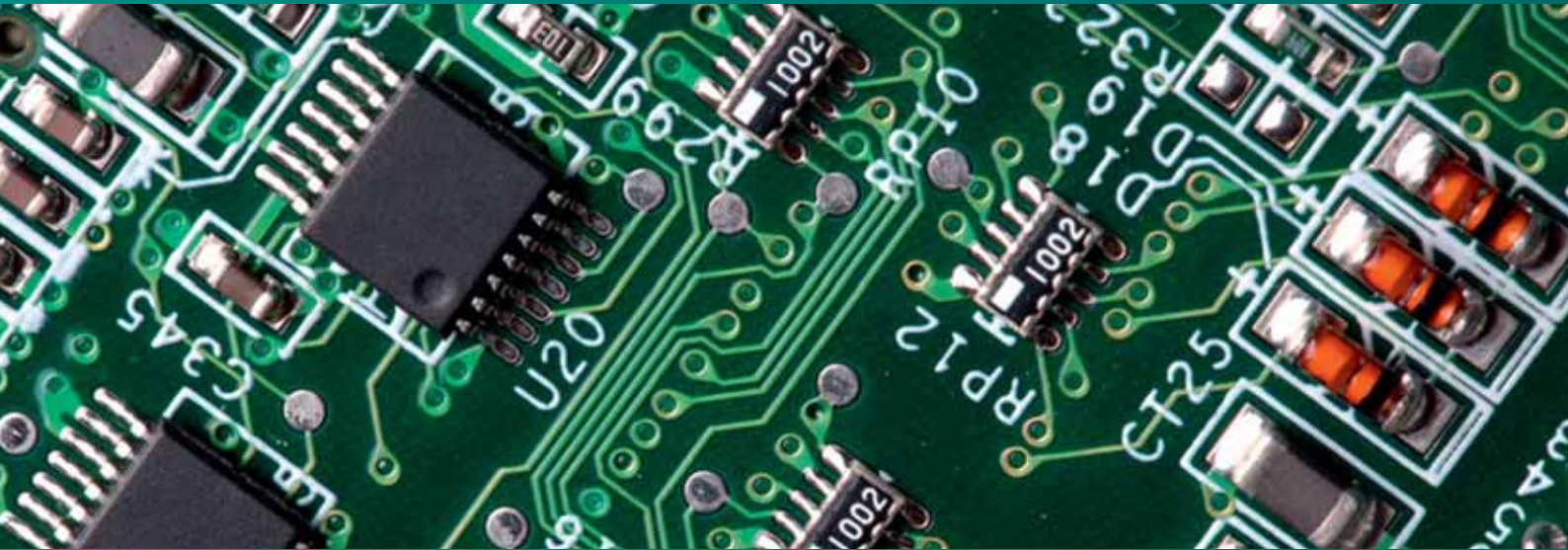
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