



**STANNOL**



**greenconnect**

responsible soldering products



responsible soldering products

## GREENCONNECT – THE SUSTAINABLE PRODUCT LINE FROM STANNOL

Stannol offers a complete product range called greenconnect, which focuses on the aspect of sustainability.

In the past, only the criteria of quality, price and delivery time were of importance, especially when purchasing tin. However, due to the strong demand for raw materials, working and living conditions in the mining areas are largely inhumane. The environment also suffers greatly from the uncontrolled and partly illegal mining of raw materials.

With our greenconnect products, we enable our customers to take a step further towards sustainable and ecological manufacturing.

### THE FIVE AREAS OF GREENCONNECT

- **solder bars** (Fairtin)
- **solder wires** (Fairtin)
- **solder pastes** (metal powder made from 90 percent Fairtin)
- **fluxes** (at least 97 percent made from renewable raw materials or water-based)
- **recycled packaging material** for all products (solder coils made of 100 percent recycle, packaging and filling materials made of recycled material such as paper)



FAIR TO THE ENVIRONMENT



FAIR TO EMPLOYEES



FAIR THROUGH TRANSPARENCY



As proof of your commitment,  
you will receive a personalised,  
batch-related certificate

*For solder from our greenconnect range, we use primary and secondary raw materials from companies that not only comply with international environmental standards, but also take wide-ranging protective measures for their employees and refrain from using child labour.“*

*(Marco Dörr, Managing Director of Stannol GmbH & Co. KG)*

## FAIRTIN SOLDER – ENVIRONMENTALLY FRIENDLY, SUSTAINABLE AND FAIRLY PRODUCED

The solder wires, solder pastes and solder bars from our greenconnect range all carry our Fairtin label. This means that primary tin from a guaranteed sustainable supply chain and from certified producers in emerging countries is processed for these products. Alternatively, solders made from high-purity secondary raw materials sourced from European production are used. These materials meet the same high standards of quality, purity and workability as solders made from primary tin.

### FOR FAIRTIN PRODUCTS, TIN IS SOURCED FROM PRODUCERS THAT

- pay attention to the protection of the environment,
- respect international and national rights,
- fulfil their social responsibility for employees and local people – for example, by ensuring fair wages and adequate occupational health and safety measures,
- work against child labour and
- act transparently.

## FLUX – BIO-ETHANOL INSTEAD OF IPA

In our greenconnect bio-fluxes, the previous main ingredient isopropanol (IPA) is replaced by bio-ethanol. Bio-ethanol consists of renewable raw materials such as straw and can be produced completely without fossil fuels via a fermentation process. This results in a significantly better CO<sub>2</sub> balance.

## WATER-BASED FLUXES

In addition to our organic fluxes, we also offer environmentally friendly water-based fluxes. These are VOC-free and enable CO<sub>2</sub> savings of around 90 percent compared to alcohol-based fluxes. The non-flammable formulations are also easier to store and pose fewer health risks.

## NO REQUALIFICATION NECESSARY

The high quality standards of our own products ensure that many greenconnect materials can be used in the respective manufacturing process without the need for costly requalification. This enables our customers to provide transparent information about the solder material used.

As proof of the commitment to our sustainable products, all greenconnect customers receive a personalised, batch-related certificate.

# OUR GREENCONNECT PRODUCTS

## SOLDER WIRE – KRISTALL 600

Although mildly activated, **Kristall 600** solder wire ensures fast and safe wetting on most surfaces. The flux contained is both halide and resin free and is based on a synthetic resin matrix. Due to the high thermal stability, the flux contained is suitable for use with all lead-free alloys.

### PRODUCT ADVANTAGES

- Fairtin solder
- No-Clean, REL0 classification
- transparent, clear residues
- greatly reduced spattering
- high thermal resistance
- good wetting
- reduced health risks, as resin-free

### APPLICATION AREAS

The Kristall 600 solder wire can be used for both hand and machine soldering in the field of electrical engineering and electronics. The flux residues are electrically safe and can remain on the solder joints. Kristall 600 is offered in the alloys Flowtin and SN100C. Both alloys are gentle on the soldering tips, which considerably increases their service life.



## SOLDER WIRE – KRISTALL 611

The **Kristall 611** solder wire is a halogen-activated flux solder wire that opens the process window in many places. A strongly reduced flux spitting in combination with a good wetting behaviour on poorly solderable surfaces are the highlights of this innovative product.

### PRODUCT ADVANTAGES

- Fairtin solder
- leaves bright No-Clean residues
- low spattering
- very good wetting properties for fast soldering
- chemically modified resin that reduces health risks when using rosin-based fluxes
- mild odour

### APPLICATION AREAS

Developed for manual rework as well as for automated soldering equipment, Kristall 611 allows to cover the different production needs in a modern electronics manufacturing. The flux contained meets the requirements of the J-STD-004C standards and is classified as REM1 flux.





## SOLDER PASTE – SP2200

The solder paste **SP2200** was developed for high-volume, lead-free SMD electronics production. It contains a highly active LO No-Clean flux. With a special formula for excellent wetting, it meets the requirements for surfaces found in any serial production today. The small amount of residue left after reflow is bright, transparent, electrically safe and does not need to be removed.

### PRODUCT ADVANTAGES

- solder powder made from Fairtin solder
- very good print-on after long printer standstills
- reflow under air or nitrogen possible
- long open time of the printed circuit board

### APPLICATION AREAS

The solder paste SP2200 was developed for stencil printing. With the TSC405, TSC305 and TSC0307 alloy as solder powder in classes 3 and 4, the solder paste SP2200 can be used in all common open and closed printing systems.



The illustrated products are examples.  
A large number of other greenconnect products  
are available on request.  
Please contact us: [info@stannol.de](mailto:info@stannol.de)

## FLUX – EF350 BIO

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The halogen-free activated No-Clean **flux EF350 Bio** guarantees an excellent wetting ability on different surfaces, for example OSP, Ni/Au, HAL, chem. Sn and chem. Ag, with both lead-free and lead-containing solder alloys. Important for our customers: Extensive tests have proven that a 1:1 exchange of the flux is possible without changing the process parameters.

### PRODUCT ADVANTAGES

- 70 percent CO<sub>2</sub> savings
- No-Clean
- universally applicable
- high solids content
- very good wetting properties

### APPLICATION AREAS

EF350 Bio is a flux with a wide working range and can be used universally. It can be applied in the field of wave soldering as well as in selective soldering. EF350 Bio is well suited for use in spray fluxers, but can also be used in foam fluxers.



## FLUX – EF160 BIO PV

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The flux **EF160 Bio PV** was especially developed for use in the photovoltaic module industry and, as a No-Clean flux, meets all the requirements of the industry. EF160 Bio PV is halogen and resin-free and low in solids. The innovative flux also ensures very good solderability in module assembly processes for soldering by IR and convection.

### PRODUCT ADVANTAGES

- 70 percent CO<sub>2</sub> savings
- No-Clean
- low-residue – minimal equipment contamination, low-maintenance processing
- low solids content
- excellent peel force resistivity
- very good wettability

### APPLICATION AREAS

EF160 Bio PV offers a wide thermal process window, making it suitable for lead-free and leaded soldering processes. It has high peel forces which keep the solder joints stable in the long term. The flux can be applied by spraying or dipping. It is suitable for both automated spray and stringer applications and can also be used for hand soldering.



## WATER-BASED FLUX – WF130

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**WF130** is a halogen-free, low solids, No-Clean flux classified as ORL0. It leaves low levels of electrically safe residues and exhibits extremely low corrosion potential.

### PRODUCT ADVANTAGES

- 90 percent CO<sub>2</sub> savings
- No-Clean
- suitable for lead-free soldering with all common alloys
- application by spray fluxer
- non-flammable formulation (VOC content < 1 percent)
- good wettability and good penetration
- easy storage and reduced health risks, as water-based

### APPLICATION AREAS

WF130 shows good wetting on oxidised copper as well as on all common protective coatings (HAL, Ni/Au, chem. Sn and chem. Ag). It also ensures good filling of through-holes.



## WATER-BASED FLUX – WF300S

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**WF300S** is a halogen-free, low solids flux designed primarily for consumer electronics manufactured under normal or nitrogen atmospheres. WF300S has been specially optimised to reduce solder beads between adjacent connections.

### PRODUCT ADVANTAGES

- 90 percent CO<sub>2</sub> savings
- No-Clean
- extremely effective on poorly solderable surfaces, e.g. oxidised copper
- optimised for reducing solder beads
- non-flammable formulation (VOC content < 1 percent)
- easy storage and reduced health risks, as water-based

### APPLICATION AREAS

WF300S has been developed for use in spray fluxers. The flux has been formulated to work on oxidised copper as well as on all common protective coatings such as HAL, OSP or Ni/Au.





# STANNOL

## TRADITION AND INNOVATION

SINCE 1879 – MADE IN GERMANY



SOLDER WIRES



FLUXES



SOLDER PASTES



ACCESSORIES



SOLDER BARS



## STANNOL

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