



**STANNOL**



SOLDER WIRES	SOLDER PASTES	FLUXES	SOLDER BARS
SOLDERING EQUIPMENT	MEASUREMENT AND TESTING SYSTEMS	CONFORMAL COATINGS	ACCESSORIES

# FLUXES

FOR ELECTRONICS MANUFACTURING



## WE HAVE THE RIGHT FLUX FOR EVERY APPLICATION.

IN SOFT-SOLDERING, A FLUX IS USED IN ORDER TO SAFELY REMOVE OXIDES AND OTHER CONTAMINANTS. THIS ENABLES A RELIABLE SOLDER CONNECTION.

The right choice of flux for wave and selective solder processes in electronics manufacturing is determined by different factors. What is essential in one manufacturing environment may be of much less importance in another. Our fluxes are just as multifaceted as our customers' requirements. Be it a water-based or a conventional solvent-based flux, with or without resin, with or without certain substances due to special material combinations. Since 1879 the range of available fluxes for reliable soldering has constantly grown in line with the topical requirements. We would like to present you with this brochure some of our most successful flux products. Many other special fluxes from our portfolio can be demonstrated on a one-on-one basis.

## EF-SERIES FLUXES

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The **EF series** cover many of the manufacturing industry's requirements for liquid soldering fluxes by providing versatility and a large application area. The EF series has been developed for application with modern spray fluxing systems. Since the series encompasses fluxes with different activation strengths, it gives you the chance to select the optimum activation according to soldering and reliability requirements. While e.g. low activation may be selected for a full nitrogen tunnel wave soldering system, soldering with older machines and on difficult surfaces requires a higher activation level.

Apart from the activity and the resulting soldering performance, the reliability of No-Clean fluxes and their residues after soldering are important factors for the selection of the right flux for the production process.

While the EF series is completely free of halides, it offers types with or without resin, with only traces of activator, up to broadband fluxes that fulfil all the requirements of current electronics manufacturing systems.

All of these fluxes ensure a high to very high degree of electrical safety with varying but low amounts of residues on soldered printed circuit boards.



In comparison with **EF330** the flux **EF350** with its small addition of resin raises the insulation resistance of the flux residues and concurrently reduces the formation of solder beads. The good activation of the flux EF350 provides a wide process window and can therefore obtain good results also in a selective soldering process.

The fluxes of the **EF200 Series** show less activation and are well suited for soldering in nitrogen atmosphere as well as on some air soldering equipment, where they leave less residues on the PCBs due to their lower amount of solids.

The version **EF270“F”** was optimised for application with foam fluxing units. It contains well balanced additives which ensure a proper foam formation over a long time. This results in a perfect thin layer of flux and a safe application prior to a good wetting and safe formation of the solder joints.

During the development of the newest member of the EF series, **EF250**, the reduction of flux residues in the soldering equipment and on the PCBs was one of the main topics - but maintaining the very good wetting properties, known from the EF series of fluxes. Reduction of equipment cleaning and maintenance was achieved with the EF250 flux. The PCBs leave the soldering process in a very clean condition; the very low amount of flux residues passes all international test standards.

All common Stannol No-Clean fluxes with small amounts of solids may be applied reproducibly in minor amounts with every common spray method on the market.

## NO-CLEAN FLUXES

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No-Clean implies that the flux residues can remain on the board without having to be cleaned. No corrosive reactions at the solder joints are to be expected. Using a strongly activated flux for soldering may require removing the flux residues after soldering. Not

doing so can lead to corrosion at and around the solder joint over time. No-Clean fluxes leave electrically safe residues which usually can remain on the assembly.

## SPECIAL FLUXES

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**500-6B** is an active flux with high priority on the electrical safety of its residues. The solids contain activators and a fairly high amount of rosin. This results in a higher residue level after soldering, but this is often accepted due to its very high electrical safety and insulation resistance. The flux 500-6B can be applied with all commonly installed fluxing systems.

The flux **500-17/1** can be perfectly used for pre-tinning of enameled copper wires at higher temperatures as well as different other delicate soldering applications. It has been developed especially for dip soldering and its high amount of solids ensures that there is always enough active flux left at the component to be soldered, even at elevated preheat temperatures or high temperatures of a dip-solder bath. There is enough activity to achieve an even pre-tinning and good soldering results.

## SEMI-AQUEOUS FLUXES

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Some slightly older soldering equipment is not well equipped in preheating for the use of VOC-free fluxes. The heat transfer rate or the length of some equipment is not high or long enough. What to do if you need to reduce your VOC emissions? The usage of semi-aqueous fluxes might be an option. With this family of fluxes the VOC emissions can be reduced up to 50% and your existing equipment can be further used! Lower flash points for easier transport and storage may also apply on some of these fluxes. They are all based on resin- and halide-free formulations.

Already some years in our product range the semi-aqueous flux **HW139** with 2.5% on solids had proven his wide process window, easy application and good soldering results at many different applications.

As a newest development in this segment of fluxes we introduce the **HW240**, which differs from the other ones due to its unique activation system. This ensures good soldering results combined with very low amounts of residues.

## WATER-BASED FLUXES

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The flux **WF300** is available in spraying and foaming variants. With a comparatively high solid content for a spray flux, the applicable flux volume can be reduced considerably and still results in reliable soldering. Therefore you can reduce the required amount of energy for drying the board prior to soldering as well as the volume of required flux.

The latest developed flux **WF203** is very well suited for wave soldering equipment with high energy input in pre-heating. It doesn't tend to form beads, but this depends on many different factors like the specifics of the soldering machine and the solder resist. Introducing water-based fluxes requires a comprehensive assessment of the application areas. Our application specialists will gladly provide expert advice.

### SOLID CONTENT

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This implies the part of solid components which are dissolved in the solvent. Apart from the activators there are also some other additives required for certain flux characteristics.

### VOC CONTENT

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The VOC content (Volatile Organic Compounds) defines the percentage of highly volatile organic solvents in the flux. Fluxes with water as a solvent are called VOC free.

## OVERVIEW

FLUX	DIN EN ISO 9454-2	DIN EN 61190-1-1	APPLICATION METHOD*	VOC CONTENT	SOLID CONTENT %
EF200	2.2.3.A	ORL0	S	High	2,0
EF210	2.2.3.A	ORL0	S	High	2,1
EF250	2.2.3.A	ORL0	S	High	2,5
EF270	2.2.3.A	ORL0	S	High	2,7
EF270F	2.2.3.A	ORL0	F	High	2,7
EF330	2.2.3.A	ORL0	S	High	3,3
EF350	2.2.3.A	ORL0	S	High	3,5
WF203	2.1.3.A	ORM0	S, F, D, B	Free	3,5
WF300F	2.1.3.A	ORM0	F	Free	4,6
WF300S	2.1.3.A	ORM0	S	Free	4,6
500-6B	1.1.3.A	ROL0	S, F, D, B	High	6,0
500-17/1	1.1.3.A	ROL0	S, F, D, B	High	15,0
500-3431BF	2.2.3.A	ORL0	S, F	High	4,4
900-7/1H	2.1.2.A	ORM1	S, F	High	1,7
HW139	2.2.3.A	ORM0	S	Low	2,5
HW240	2.2.3.A	ORL0	S, F	Low	2,4
X33-08i	2.2.3.A	ORL0	S, F	High	2,0

\*Application methods: S spraying / F foaming / D dipping / B brushing

## PACKAGE SIZE

FLUX	2.5 LITRES	25 LITRES
EF200	Part-No. 164025	Part-No. 164024
EF210	Part-No. 164149	Part-No. 164150
EF250	Part-No. 164103	Part-No. 164106
EF270	Part-No. 164159	Part-No. 164157
EF270F	Part-No. 164102	Part-No. 164101
EF330	Part-No. 164156	Part-No. 164155
EF350	Part-No. 164151	Part-No. 164152
WF203	Part-No. 164166	Part-No. 164167
WF300F	Part-No. 830389	Part-No. 830390
WF300S	Part-No. 830391	Part-No. 830392
500-6B	Part-No. 164014	Part-No. 164016
500-17/1	Part-No. 164037	Part-No. 164038
500-3431BF	Part-No. 164153	Part-No. 164147
900-7/1H	Part-No. 158010	Part-No. 158007
HW139	Part-No. 164145	Part-No. 164146
HW240	Part-No. 164108	Part-No. 164109
X33-08i	Part-No. 830378	Part-No. 830381

### MORE FLUXES ARE AVAILABLE

This brochure shows only a limited range of products and we only focused on our top selling products. Our flux portfolio in total encompasses more than 100 different products.

You will find more products as well as an innovative product selector tool at **[www.stannol.de](http://www.stannol.de)**. Using this selector guide you have the opportunity to refine the product choice according to different criteria.

**SERVICE-HOTLINE**  
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# STANNOL

## TRADITION UND INNOVATION.

SOLDERING TECHNOLOGY SINCE 1879 – MADE IN GERMANY



SOLDER WIRES



FLUXES



SOLDERING IRONS



SOLDER PASTES



ACCESSORIES



SOLDER BARS



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