94-SEL flux

Description product

94-SEL is a low VOC based flux for Selective soldering applications under (partly) N2 atmosphere. This flux offers highest ionic and optical cleanliness and provides outstanding soldering results for use in high-tech and industrial applications. Due to the water content of 40% the flux will not spread that much over the substrate.
94-SEL is Resin based and is classified according IPC-J-STD-004 as **REL0.** The product is halide and halogen free

See the Product Data Sheet (PDS) for the specification of the product concerned. Read the Safety Data Sheet (SDS) before handling and/or using this product.

Receiving and storage

Store unopened cans in an explosion free storage preferable at a temperature below 20 °C or normal ambient temperature. Fluxes are shelf-life items and should therefore be handled as FIFO supply

DO NOT: Expose to heat or frost
DO NOT: store the flux at temperatures below 4 °C
DO NOT: exceed storage temperatures above 30 °C.

Flux that has been exposed to frost should be placed in a room with central heating for at least 4 hours and shaken before use.

Handling

The recommended ambient conditions for applying the flux are 18-25 ºC.

Prior to using the flux, tank, spray nozzle, fingers, pallets/carriers and tubes should be cleaned properly. If pneumatic air is used to apply the flux, the air must be dry, free of oil and temperature controlled. A water and oil separator for the supplied air is strictly necessary.

It is important to start with components and board materials that meet requirements for solder-ability and ionic cleanliness.

DO NOT: mix the flux with other fluxes
DO NOT: leave the flux can opened when remainder flux is still in the can.
DO NOT: utilize the flux in the fluxing system before flushing the tubing with IPA.

Flux application

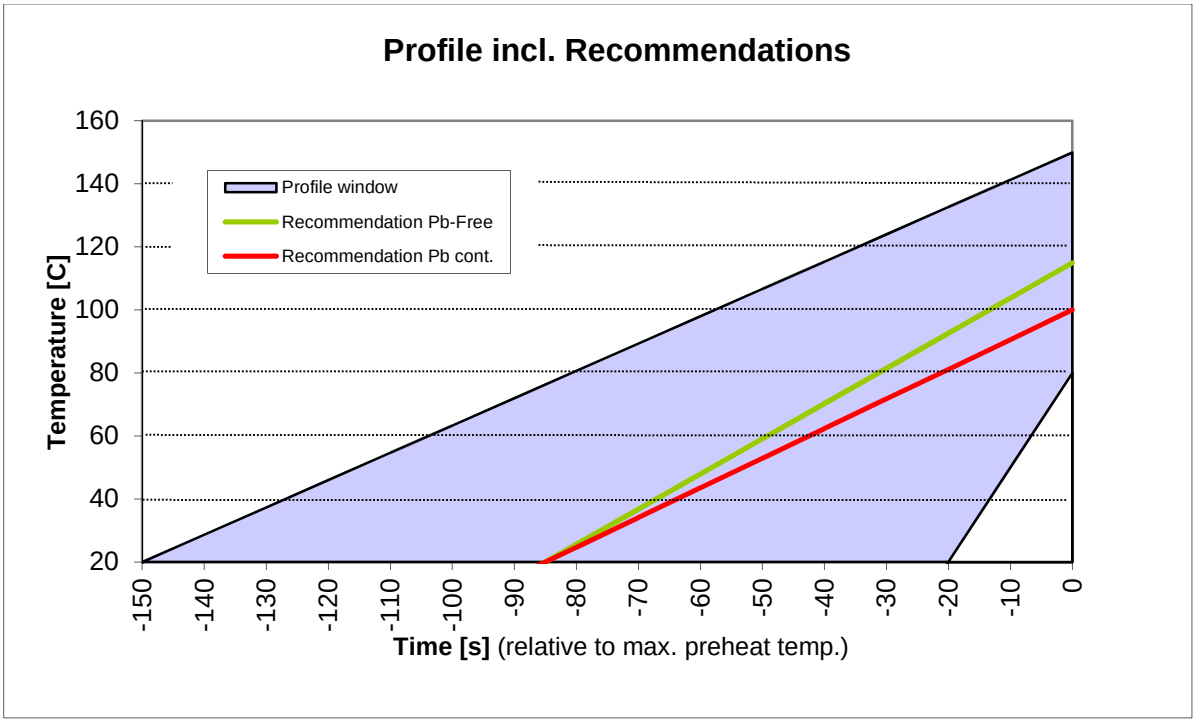
The preferred application to apply this flux is using a drop-jet fluxer unit. Assure to apply the flux only in the soldering areas and avoid flux presence in the so called “keep out” areas. Use as less as possible volume of flux whilst still achieving a perfect TH performance.

High drop-jet air pressure can cause bouncing effects of the flux against the PCB surface.

DO NOT: apply too much flux as this will result in excessive residues.

Preheating

The solder target side (component side) should be according specifications. To ensure a smooth and complete evaporation of the flux a linear profile with a temperature gradient < 2 ºC/s is recommended.



DO NOT: Use too high pre-heat temperatures as this will degrade the flux performance.
DO NOT: Use too long pre-heat times as this will degrade the flux performance.

Soldering

In order to obtain clean and well-soldered assemblies, a contact time in the solder wave between 2.5 and 4 seconds is recommended. This time is temperature dependent. For a typical SnPb process (solder temperature 270 ºC) the initial setting is approximately 3-4 seconds.

For lead-free (solder temperature 280-320 ºC) up to 6 seconds soldering time may be required depending on the application.

Residues/cleaning

94-SEL is a No-Clean flux. Depending on the type of solder resist and when properly applied it shows hardly any visual residues. Board surface will be dry and non-sticky and residues do not need to be removed for typical applications.
In cases however where cleaning is still prescribed, cleaning can still be performed using Cobar MCA-1424 Aqueous cleaner