

## Application Note

## 396-DRX-M+ flux

**Description product**

**396-DRX-M+** is a VOC-free based flux for wave soldering applications with (partly) N2 atmosphere. This flux offers highest optical cleanliness and provides outstanding soldering results for use in industrial and consumer applications.

**396-DRX-M+** is Organic based and is classified according IPC-J-STD-004 as **ORLO**. The product is halide 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 °C.

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.

## Application Note

### Flux application

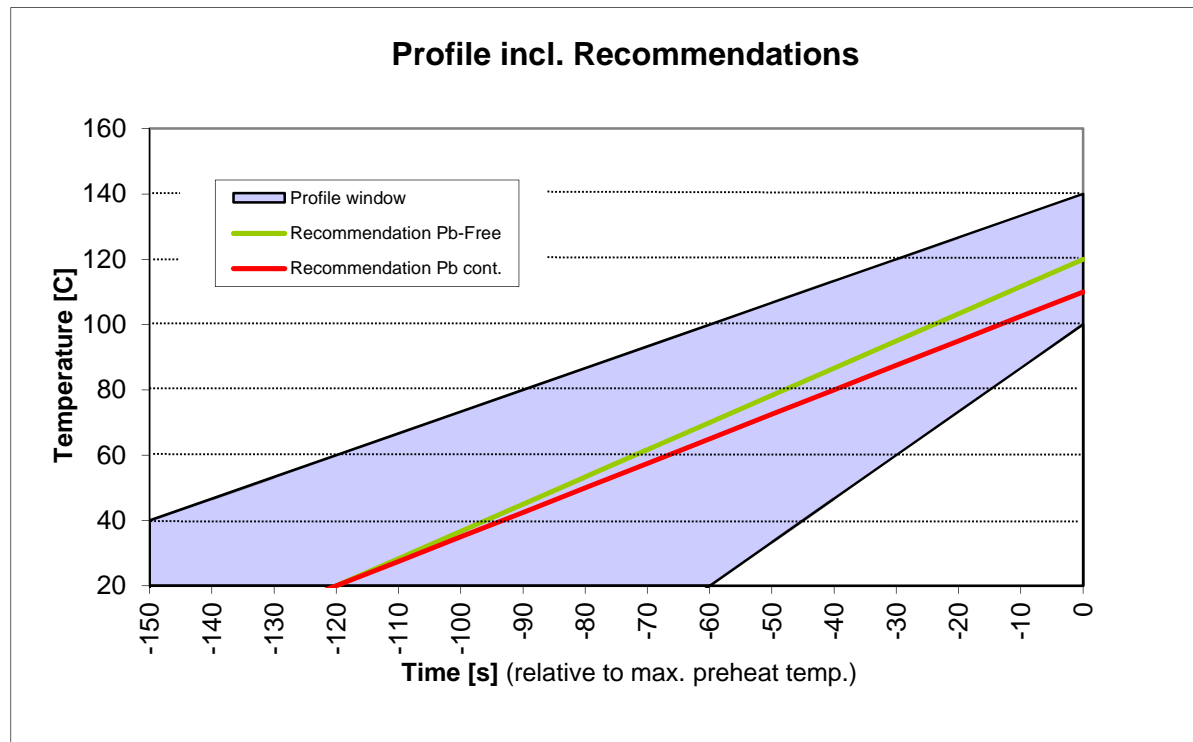
The preferred application to apply this flux is using a spray fluxer unit. Make sure that the unit has a stable and uniform spray-cone. The flux should have the finest droplets at the lowest possible setting for the atomizing air pressure. Too low air pressure gives bigger and unstable droplets; high air pressure cause bouncing effects of the flux against the PCB surface.

Use a scrap/bare board or a carton board to set-up the spray parameters. Turn the board upside down after spraying for inspection. It is essential that a continuous, uniform spray pattern has been deposited all across the board.

**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  $< 2 \text{ }^{\circ}\text{C/s}$  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.

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### 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 250 °C) the initial setting is approximately 2.5 seconds.

For lead-free (solder temperature 260-265 °C) up to 4 seconds soldering time may be required depending on the application.

### Residues/cleaning

**396-DRX-M+** 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

#### *Disclaimer:*

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