

## Application Note

**Cobar-OT2-SN100C-T3/T4****Description product**

The **Cobar-OT2-SN100C** is a next generation lead-free solder paste. The flux system is halogen and halide free. The SN100C alloy is a tin copper based alloy which is eutectic at 227 °C.

SN100C stands for the alloy composition Sn99.3Cu0.7Ni0.05Ge0.005

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

**Receiving and storage**

After receiving the solder paste it should be unpacked and stored. **DO NOT** store the paste in a fridge or at temperatures lower than 8 °C. Leave the jars sealed at room temperature until use.

Cartridges should be stored in a horizontal position. To eliminate flux segregation it is advised to rotate the cartridges once a month.

**Handling**

Allow the jars and their contents to reach the ambient temperature at the printer before use. **DO NOT** open cold containers as moisture may condense on the product and affect performance. Do not place it on a hot plate, furnace, reflow oven or any other artificial means to warm.

Stir the material for 1 minute with a steel spatula (or equivalent). This practice homogenizes the product and prepares it for immediate test.

Solder paste is a shelf-life item and should be managed as a FIFO-supply. **DO NOT** store new and used paste in the same container. Keep the jars tightly sealed when not used.

## Application Note

### Print recommendations

Use a squeegee with a minimum necessary length. Recommended is to have 25 mm (1 ") on both sides of the print pattern. Apply 10 gram/cm of squeegee length on the stencil.

The stroke of the squeegee should start and end 50 mm (2") before/after print pattern to allow the paste to roll properly.

Printer settings depend on print equipment, stencil materials and temperature. General recommended settings:

Print speed [mm/s]	Squeegee pressure [kg/cm] @ 23 °C
25 – 100	0.20 (0.50 kg/inch)
100 – 200	0.25 (0.65 kg/inch)

Decrease pressure by 5% per 1 °C higher temperature.

For typical PCB's: separation speed 10 mm/s. For the MPM machines step 6 of slow-mode.

Recommended operating temperature is between 22-28 °C and 30-70 %RH.

In case no printing has been done for more than four hours, it is highly recommended to perform a total stencil cleaning prior to re-start.

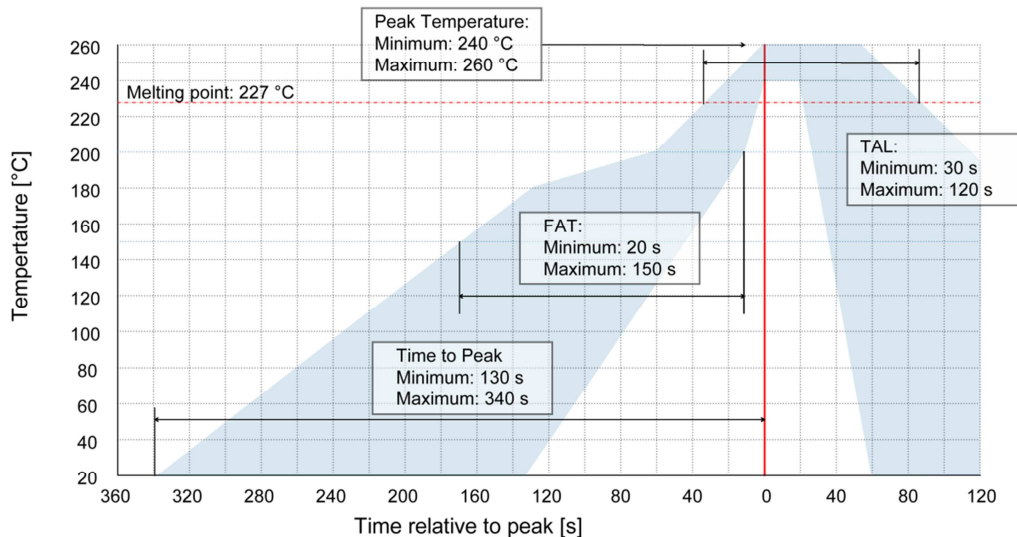
### Tack time

It is recommended to place components and reflow the assembly no longer than 24 hours after printing.

### Reflow profile

The printed boards can be reflowed up to 24 hours after printing without adverse effects. The recommended profile can only be considered as a guideline for the initial setting of the equipment.

## Application Note



FAT = Flux Activation Time (time between 150 and 200 °C)

TAL = Time Above Liquidus (time above 227 °C)

T<sub>p</sub> = Peak Temperature (maximum temperature)

#### NOTE:

Although the solder paste has a very wide process window a linear reflow profile is preferred in case of poor wettable components/board finishes.

For vapour phase or inert reflow soldering a longer soak and/or time above liquidus are less critical.

### Residues/cleaning

**Cobar-OT2-SN100C** is a no-clean formula. Residues that remain on the assembly after soldering are chemically inert and not meant to be cleaned. The residues on the PBA can however be cleaned with Cobar MCA-1424 Aqueous cleaner.

The residues on stencil, spatulas and other tools as well as misprints may be cleaned with cleaner MCI-2330.

#### *Disclaimer:*

*The information given in this publication has been worked up to the best of the knowledge of Balver Zinn/Cobar as well as taking into consideration the applicable laws and regulations. We cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other*