



STANNOL®

Wenn's ums Löten geht
When it's about soldering
Quand il s'agit du soudage

Technical Data Sheet

STANNOL® Solder Paste SP2400

Lead-Free, No-Clean, Low Voids Solder Paste

Key benefits

- ✓ optimized flow behaviour beneath components
- ✓ halogen-free, no-clean
- ✓ exceptional print to print consistency

Description

STANNOL® SP2400 Solder Paste series is a lead free no clean solder paste that promotes outstanding wetting and minimizes soldering defects.

The **STANNOL® SP2400** flux system is specifically optimized for lead free alloys, e.g. Sn/Ag/Cu. This formula provides superior performance on a variety of surfaces finishes and leaves behind a clear residue. The formation of voids on BGA / QFN components is reduced, compared to different other available solder pastes. A proper setting of temperature profiles is still required, to achieve lowest possible voiding.

Additional versions with solder powder particle size 4, special viscosity version for improved pin-in-paste application and low silver containing alloys are in development and will be made available on request.

Application

Performance Parameters:

- Stencil thickness: $\leq 8 \text{ mil} = \leq 200 \mu\text{m}$
- Minimum pitch: $12 \text{ mil} = 300 \mu\text{m}$ (stencil thickness: $150 \mu\text{m}$)
- Minimum pad width: $6 \text{ mil} = 150 \mu\text{m}$
- Print speed: $20\text{-}50 \text{ mm/s}$
- Print after wait: min. 30 minutes

Note: The above data are for information only. Final results depend on different process parameters at the customer.

Recommendation for solder paste printing:

- Ensure that the paste has reached room temperature before opening, to prevent condensation.
- Stir well prior to use.
- The printed solder paste remains tacky up to at least 8 hours, to allow pick and place. The exact time depends on the environmental conditions, components' size and form, and on the accelerations during pick and place.
- If the PCB will be stored for more than 8 hours after population and prior to reflow, it is advisable to store the boards in a tightly closed area. This is especially important if the humidity exceeds 65%. Humidity should be ideally controlled between 45-65%.



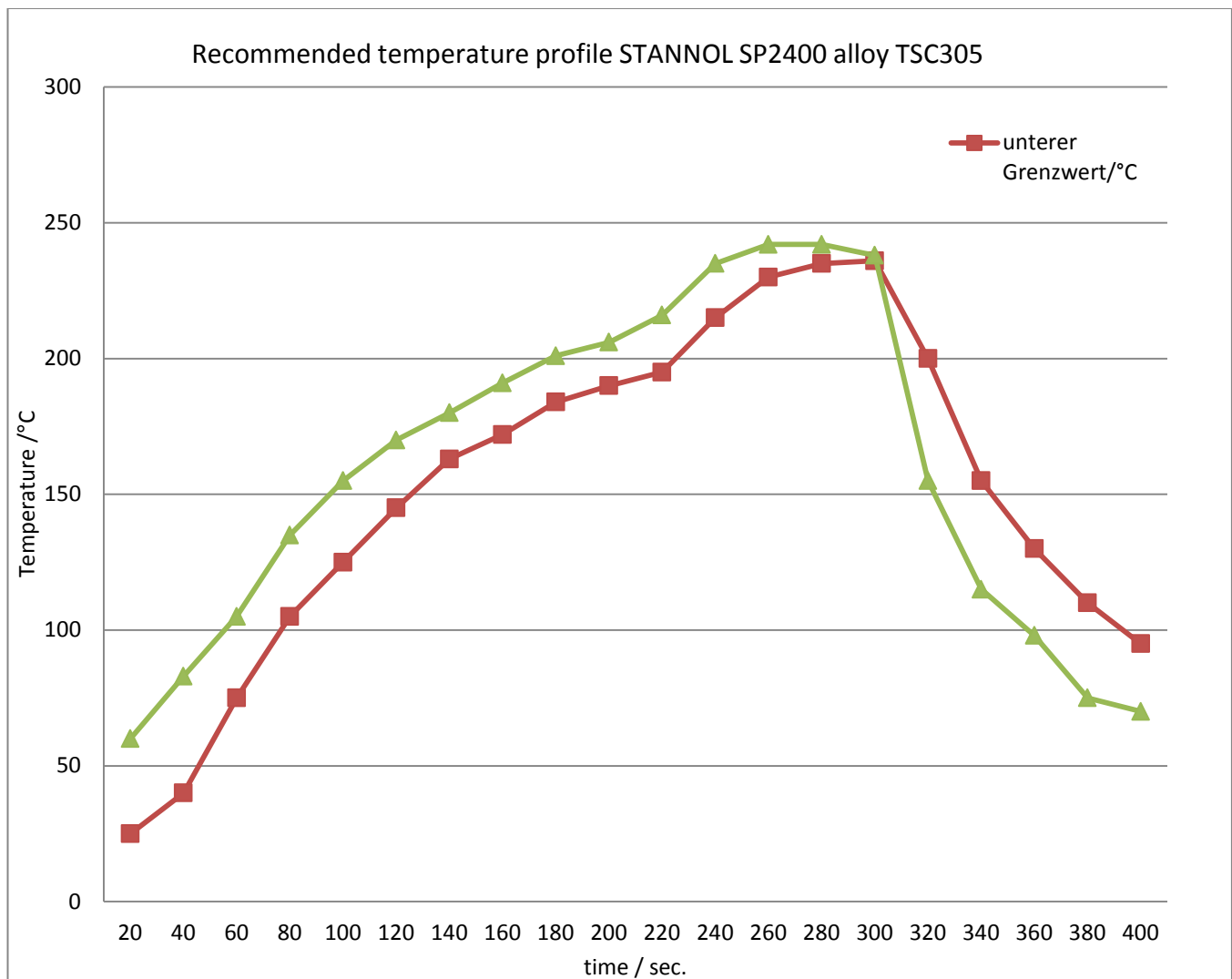
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Reflow profile (recommendation):

- For optimum results, the paste should be reflowed at 20-30°C above the liquidus temperature of the alloy (217°C), but maximum peak temperature should be 240°C.
- Time above liquidus should be maintained for 30-90 seconds.
- Heating should be uniform across the substrate and components.
- Every industrial established process of heat transfer in air or N₂ can be used.

Recommended temperature profile:



The mentioned values are typical and represent no form of specification. The Data Sheet serves for information purposes. Any verbal or written advise is not binding for the company, whether such information originates from the company offices or from a sales representative. This is also in respect of any protection rights of third parties, and does not release the customer from the responsibility of verifying the products of the company for suitability of use for the intended process or purpose. Should any liability on the part of the company arise, the company will only indemnify for loss or damage to the same extent as for defects in quality.



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Cleaning:

- The flux residues may remain on the circuit. They do not need to be cleaned. If desired, the residues can be washed off with different cleaning materials.

Technical Specification

Solder paste type	STANNOL® SP2400 TSC305-89-3 SP2400 TSC305-89-4
Properties	
Alloy	Sn96,5Ag3,0Cu0,5 (ECOLOY® TSC305)
Melting range, °C	217-223
Metal content, %	89
Solder powder, µm	25-45 (type 3) 20-38 (type 4)
Application	stencil printing
Flux Activity Classification	RE L0 (J-STD-004)

Packaging

STANNOL® SP2400 solder paste is supplied in 500g plastic jars with an air seal insert.
Other forms of packaging are available on request, probably subject to minimum order quantities.

Storage and Shelf life

Providing SP2400 solder pastes are stored at 5-12°C tightly sealed in the original container, this solder paste has a minimum shelf life of 6 months.

Avoid exposure to sunlight and high humidity.

Please let the solder paste after storage allow recovering to room temperature before opening the jar for a minimum of 2h.

Health and Safety

Before using please read the material safety data sheet carefully and observe the safety precautions described.

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