STANNOL

SOLDER PASTE SP2500

Lead Free No-Clean solder paste, REL0

GENERAL DESCRIPTION

The lead free Stannol SP 2500 no-clean solderpaste is designed to achieve extraordinary wetting characteristics in combination with a wide spreaded process window for perfect soldering results.
Being optimized for lead free alloy compositions and fine pitch powder sizes (T4)
the Stannol SP 2500 is the primary choice for high production throughput.
High Quality soldering results can be expected on a variety of different surface finishes with transparent residues. In comparison to various other solder pastes the SP 2500 tends to a significant void reduction in particular with BGA and QFN components.
To achieve the full performance of void reduction in number and size
in some cases the individual alignment of the recommended temperature profile is advised.

Besides in TSC 305 alloy and powder size 4 the SP 2500 solder paste is also available in the alloys TSC 0307 and TSC 305 in powder size 3.

PRODUCT FEATURES

This product offers the following technical features:

- **REL0 classified no-clean solder paste**
- **halogen-/halogenid zero**
- **Excellent stability of viscosity**
- **High constant print behaviour**
- **Smallest amounts of clear residues**
- **Perfect wetting with oxygen and nitrogen**
- **Minimum appearance of Voids**
- **Anti-capillary effects, in particular at QFP components**
- **Optimized flux system to powder size type 4**

APPLICATION

COMMON PARAMETERS	SOLDERPASTE SP 2500
Stencil Thickness:	100-150 µm
Snapoff:	0-0,5 mm
Pitch Size:	0,25-0,65 mm
Printspeed:	50-100 mm/s
Temperature Range:	20-32°C
Relative Humidity:	30-80 %

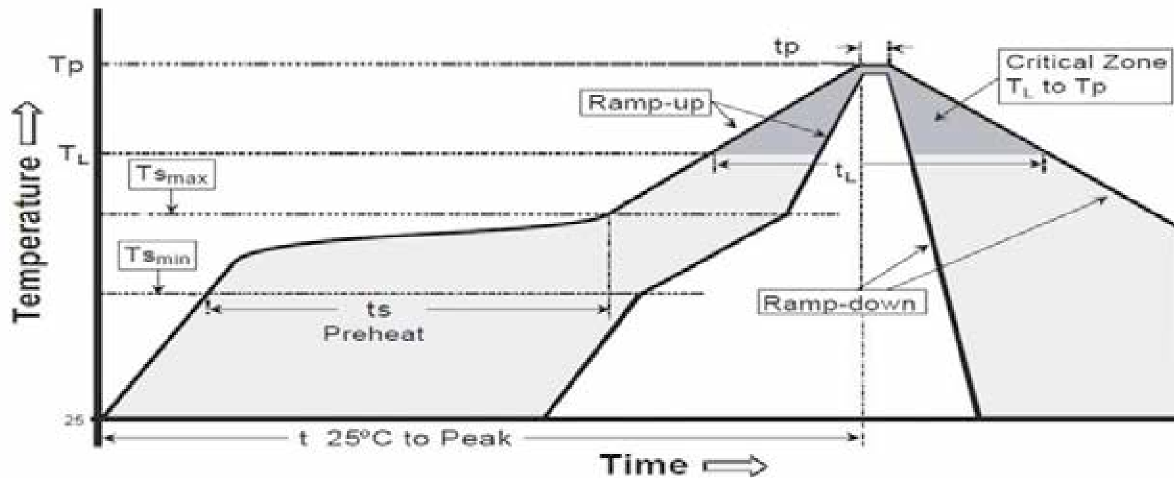
Haberstr. 24 • 42551 Velbert • Tel: +49 (0)2051-3120-0 • Fax: +49 (0)2051-3120-111 • E-Mail: info@stannol.de • www.stannol.de

Recommendations on printing solder pastes:

- To avoid possible condensation of humidity the pastes shall reach the environmental temperature before the jar is opened.
- Before usage please stir/mix the paste accordingly.
- To enable a reliable placement process the paste stays tacky for a minimum of 24 hours. The precise usability time is depending of various factors such as environmental conditions,size and shape of components or the accelerations during Pick & Place.
- In case of storing boards longer than 8 hours between printing and component placement we recommend to control the storage conditions at a stable environment level and suggest to ensure a humidity of 45-65% for the duration of storage.

Reflow profile (advice):

- To achieve optimum performance the Reflow Peak Temperature should stay 20-30 °C above the liquidus Temperature of the alloy (223 respectively 227°C).
- Minimising the appearance of voids the maximum temperature should not exceed 245°C and a soak zone should be anticipated.
- The time above liquidus is recommended from 40 to 60 seconds.
- Heating shall be evenly distributed over board and components.
- Any method in air or nitrogen can be used.
- For vapour phase soldering a relatively short and linear temperature profile at 240°C is suggested.



Cleaning: Flux residues are designed to stay on the products after soldering. Should cleaning be essential our application engineers can assist choosing the appropriate cleaning solution

TECHNICAL SPECIFICATIONS

Solder powder: The permitted contaminations in this solder powder type conform to ANSI/J-STD-006 and DIN EN 29453. The nominal Particle sizes are 25-45µm (type3) respectively 20-38 µm (Type 4) with precisely monitored and controlled shape and distribution.

GENERAL PROPERTIES	SP2500 TSC0307-89-3	SP2500 TSC305-89-3	SP2500 TSC 305-89-4
Alloy:	Sn99Ag0,3Cu0,7 (Ecoloy TSC0307)	Sn96,5Ag3,0Cu0,5 (Ecoloy TSC305)	Sn96,5Ag3,0Cu0,5 (Ecoloy TSC305)
Melting Range (°C):	217-227	217-220	217-220
Metal Content, %:	89,25	89,25	89,25
Particle Size (µm):	25-45 (type 3)	20-45 (type 3)	20-38 (type 4)
Application Method:	stencil printing	stencil printing	stencil printing
Flux Classification:	RE L0 (J-STD-004B)	RE L0 (J-STD-004B)	RE L0 (J-STD-004B)

CUSTOMARY PACKING

Stannol SP2500 Solderpaste is filled and delivered in the following packing units:

- **500g plastic jars**

Upon request we also offer alternative packaging solutions.
Please note that therefore certain minimum order quantities apply.

STORAGE AND EXPIRATION

The minimum shelf-life for this product at 2-8 °C is limited to 6 month from the manufacturing date in unopened original case. Allow the paste settle to room temperature (min. 2h , ideally 4 h) in its closed jar/syringe prior to processing to avoid the influence of condensating humidity on the paste surface.

HEALTH AND SAFETY

Carefully read the material related safety datasheet (MSDS) before using this product for the first time and apply the safety measures accordingly.

LEGAL NOTE

The above mentioned data are typical and common values only and do not represent any specifications. This datasheet is only for the purpose of your information. Our applicational guidance in written is noncommittal unconcerned if advised by first or third party also in connection to third party property rights and does not exempt our customers to individually evaluate our products for the intended applications and purposes. Should any liabilities occure to us, we award compensation only to the same extent as with quality failures.