

SOLDER PASTE SP2200D TSC305 (Sn96.5Ag3.0Cu0.5)

Lead-free No-Clean solder paste REL0

PRODUCT DESCRIPTION

Stannol SP2200D solder paste is designed for use with TSC305 alloy (Sn96.5Ag3.0Cu0.5). It contains a highly active type L No-Clean flux. With a special formula for excellent wetting, it meets the requirements of high-volume production where components and PCBs often have less than optimal solderability. Wetting properties have been optimized for all known lead-free PCB and component metallisation. The small amounts of residue after reflowing are electrically safe and do not need to be removed.

CHARACTERISTICS

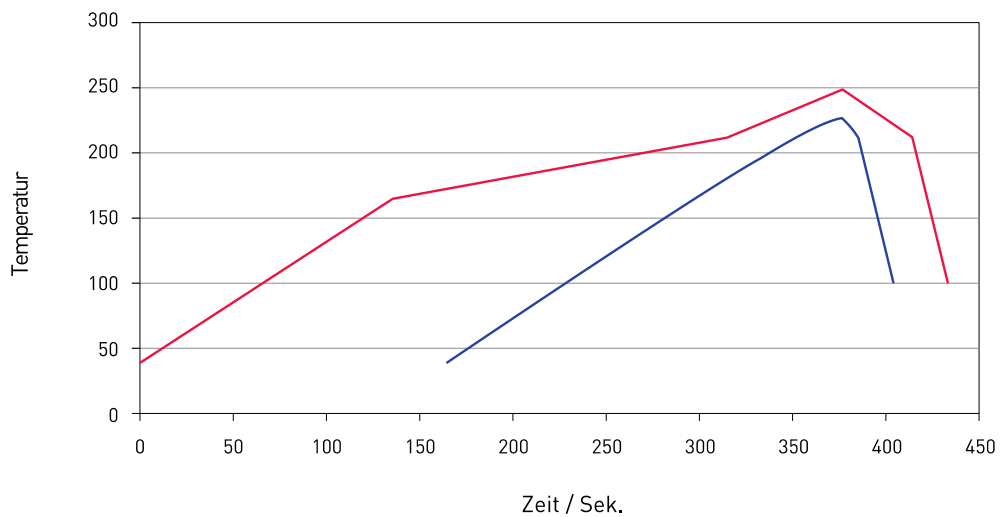
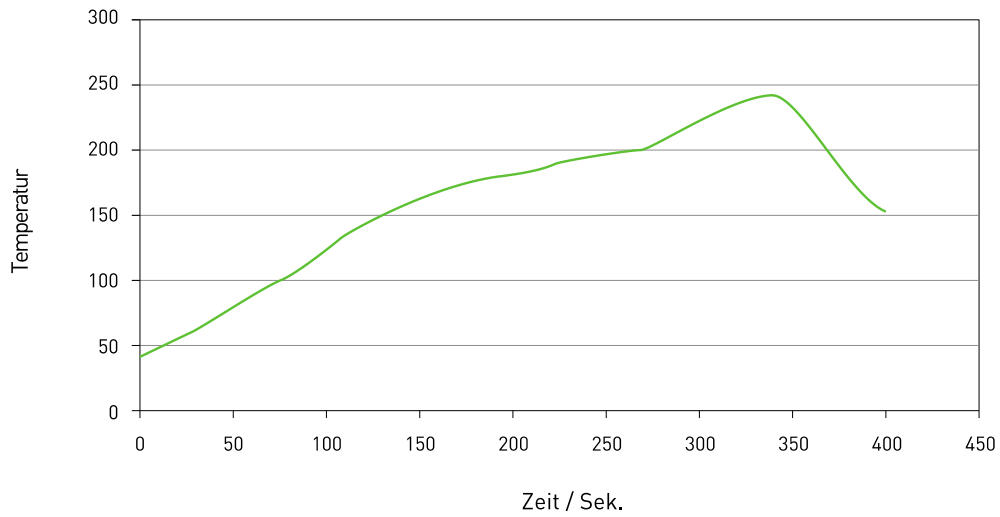
The product offers the following advantages:

- specially designed for use with lead-free alloys
- reflow under air or nitrogen possible
- very good wetting on all surfaces, also Ni and Pd
- processing temperature 20-32°C
- high tackiness for use on high-speed placement machines
- good dispensing properties

APPLICATION

Paste dispensing: The SP2200D solder paste has been developed for use with various dispensing equipment. From time/pressure dispensers to pinch valve dispensers and jet dispensers. With alloy TSC305 in solder particle size type 3 (45-25 µm), it can be used on most available dispensing systems. SP2200D solder paste has an open time on the PCB of at least 8 hours. During this time, the viscosity is maintained for sufficient tackiness of the components. The exact time for sufficient tack always depends on the environmental conditions in the production environment. If the time between paste application and reflow exceeds 6 hours, it is recommended to store the assembly in a closed container to prevent the paste from drying out. This is particularly the case at a rel. humidity of > 83 %.

Reflow profiles: The reflow process can be performed in air and nitrogen atmosphere. Following is a temperature profile, which has shown good wetting results when used with the SP2200D solder paste. However, other profiles can also be used, depending on the available system technology and solder material. A linear reflow profile is recommended for this solder paste. If a saddle profile is used, the temperature load in the preheater should not exceed a time of 120sec at temperatures around 180 °C.



RECOMMENDATION PROCESS WINDOW	MAX (RED)	MIN (BLUE)
Peak:	250 °C	230 °C
T>217 °C:	100 sec.	30 sec.
100°C to 217 °C:	260 sec.	130 sec.

CLEANING

Stannol SP2200D was developed as a No-Clean solder paste. This means that there is no need to remove the residues. If extremely high electrical safety is required, SIR Tests and ionic contamination measurements can help to decide whether cleaning is necessary. If cleaning is required, the residues can be removed in conventional cleaning processes. For cleaning, Stannol cleaner Flux-Ex Post is recommended.

TECHNICAL SPECIFICATION

Solder powder: The solder powder for Stannol SP2200D solder pastes is produced by atomizing alloys conforming to the purity requirements of J-STD-006, EN 29453 or other national and international standards where relevant. Careful control of production processes ensures exact solder powder particle distribution in a spherical shape.

GENERAL PROPERTIES	SP2200D TSC305-87-3
Alloy:	Sn96.5Ag3.0Cu0.5 (Ecoloy TSC305)
Melting range, °C:	217-223
Metal content, %	87
Solder powder, µm:	45-25 (type 3)
Application:	automatic and manual dispensing

Tests	Specification	Result
Copper corrosion:	ANSI/J-STD-004B	pass
Copper mirror corrosion:	ANSI/J-STD-004B	pass
Surface insulation resistance (without cleaning):	ANSI/J-STD-004B - IPC-TM650	pass
	JIS-Z-3284 85 °C/85 % rF	pass
	JIS-Z-3284 40 °C/90 % rF	pass
	DIN IEC 61189	pass
	Bellcore GR-78-Core (1997)	pass
Silver chromate paper test:	ANSI/J-STD 004 / QQS-571	pass
Chlorides:	IPC-TM-650	< 20 ppm
Bromides:	IPC-TM-650	< 20 ppm
Solder balling:	after 1 h at RT	pass, class 1
	after 24 h at RT	pass, class 1
Tackiness:	JIS-Z-3284	at least 100 g after 24 h
Flux Activity Classification (without cleaning):	DIN 29454-1	1.2.2.C
	J-STD-004	RELO

PACKAGING

Stannol SP2200D solder pastes are supplied in:

10 cc cartridges = 40 g

30 cc cartridges = 110 g

Other forms of packaging are available on request, probably subject to minimum order quantities.

STORAGE AND SHELF LIFE

Please store the SP2200D solder paste at 2-8 °C in a refrigerator, tightly sealed in the original container. Shelf life in cartridges is 4 months from the date of manufacturing. Please refer to the expiry date on the label of the packaged product for more dedicated information. Solder paste in cartridges should be stored upright with the Luer Lock facing downwards. If this is not possible, we recommend turning the horizontally stored cartridges by 180° once per week to avoid separation. Allow the solder paste to warm up slowly to room temperature in the closed original container for approx. 2-6 h before processing.

Opened cartridges: Recommendation maximum 16 h at room temperature.

Note: Use opened cartridges within 7 days – if stored properly

HEALTH AND SAFETY

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

DISCLAIMER

The above 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.