

# Solder Paste Handling

This document will explain how solder paste shall be handled by our distributors and customers from the time it leaves the Kester facilities.

**Shipping or Receiving:** Shipping or receiving solder paste applies to whenever the solder paste is transferred from one location to another. This could be from Kester to a distributor, customer or out to a line within a customer's factor. Each time the solder paste changes location the lot number, time, date and "shipped to" location shall be recorded in a single location.

**Shipping Number:** This record could be kept on a factory shipping spread sheet. So anyone needs to know where a particular container of solder paste can be found it with a point a click.

**Shipping Solder Paste:** All solder paste shall be verified to the shipping documentation to ensure what is being asked for is in fact what is going to be shipped. The lot number for each container of paste shall be recorded along with the shipping number.

The containers of paste will be placed in a small box or wrap that will isolate it from direct contact with ice or ice packaging. The small box will be placed in cooler, typically a foam box. Ice packs shall be placed within the same container. Kester's shipping department can provide a full description of the proper methods used. Overnight shipping is recommended.

**Receiving Solder Paste:** Solder paste shall come in a package that includes solder paste, ice packs and invoice describing the contents of the box. When received:

1. Verify the documentation.
2. The jars or cartridges should be cool to the touch. They should not be cold as ice.
3. The snap covers on the cartridges and the lids on the jars should be in place and the containers should have no evidence of damaged.
4. Each jar or cartridge should have a clearly printed label.
5. Record the lot number, Date of Manufacture (DOM), paste part number from each jar or cartridge. Write the date received on each jar or cartridge. Place all this information in an Excel sheet for your reference.

As you record this information, place it in a refrigerator that is set at 32°F-50°F degrees (0°C-10°C). The temperature of the refrigerator should be monitored from day to day to ensure it is functioning correctly. **NEVER FREEZE SOLDER PASTE.**

Jars can be stacked with the bottom of the jar down. Cartridges should be stored with the small end down, if at all possible. The second best way would be on their side. Never store with the small tip up as this will tend to separate the metal from the flux within the solder paste.

Keep in mind that you want to use the oldest paste first when loading the refrigerator. If possible move the older paste to the front of the refrigerator then place the newer material in the back. Refer to your Excel sheet for this information or the dates on the individual containers of solder paste.

Prior to using solder paste in a screen printer:

1. Record all the information and update your spread sheet found under "when shipping solder paste".
2. Solder paste should be removed the night prior to ensure that it is at room temperature the next day. If this is not possible, it will require at least 4 hours for it to come to room temperature before being used in a screen printer. This information should be verified by reading the Technical Data Sheet for the solder paste part number. The solder paste should be stored on a bench or area that is at room temperature. You shall not use any methods to heat the containers of solder paste.
3. Record the time it was removed from refrigeration on the Excel sheet and on the side of the jar or cartridge. Using the DOM, determine the order in which the paste will be used.



4. NEVER PLACE SOLDER PASTE CONTAINERS ON A HOT SURFACE OR IN A MIXER TO SPEED THIS PROCESS UP. It will change the characteristics of the solder paste, typically shortening the stencil life.

Screen Printing Solder Paste: Kneading solder paste is not required. When dispensing from a cartridge flow will mix and fold the solder paste within itself. When dispensing from a jar the action of placing the paste on the stencil will mix the paste within itself.

Ensure:

- The screen printer has the correct recipe.
- The stencil is properly cleaned with all the apertures clear of any residues.
- The squeegees are clean and not bent.
- The proper supports are in place for the circuit board.

Place a volume of solder paste on the stencil and print a dummy board or place a piece of paper on a board and cycle the printer. The goal here is to ensure the paste is rolling properly prior to the first real print. It also helps to properly distribute the solder paste in front of the squeegees. The roll size should be no more than 1" (25mm) in diameter.

When finished with the printing process:

- Never place the paste from the printer back in the container with unused solder paste. Always use a second cleaned container to store this paste in or discard it.
- When starting up again, always start with fresh, unused solder paste. Then as required add the older, used paste, into the machine.
- Typically after being recycled for two days it is suggested the "used" paste be discarded.

No-clean solder paste can be left out at room temperature for a period of 7 days, and water-soluble solder paste can be left out for up to 2 days. If solder paste is going to be taken from the container on a daily basis, the environment must be 30-60% RH and 50°F-75°F in your factory\*. If not used on a daily basis, solder paste should be refrigerated. Jars must have their plunger in place (pushed all the way down to the solder paste) and tops on. Cartridge must have both covers on and stored small end down. This cycle of room to refrigeration can take place several times during the normal shelf life of the solder paste.

For information on Kester's pastes with an unrefrigerated shelf life, please see the respective technical data sheets.

\*Note: if the temperature or RH is outside this range the life time of the solder paste will be compromised.

For any questions, please contact:

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