# Solder Paste Usage

*How-to guide: what the workbook does, how to use it and what every number means.* mfgcalcs.com

## Solder Paste Usage

Plan the solder paste every SMT job needs, with its waste allowance and cost, and see which paste types are short of stock for the plan.

For: SMT process engineers, production planners and materials buyers at electronics manufacturers and EMS providers.

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## Quick start

1. On Setup, type your site and plan period, and list your pastes with their alloy, jar size, price per jar and jars in stock.
2. On Jobs, give each SMT job a row: board, line, paste, boards or panels to print, paste per board and usage efficiency.
3. Fix anything the Check column names.
4. Open the Dashboard: paste required by job, jars needed against stock by paste, and the cost.

## What is in the workbook

| | |
|---|---|
| **Start Here** | Read this first: what the workbook does and how to use it. |
| **Setup** | Site, plan period, currency, the near-stock threshold, and the pastes with their jar size, price and stock. |
| **Jobs** | One row per SMT job: boards, paste per board and efficiency in; paste required, waste and cost out. |
| **Dashboard** | Paste required for every job, its waste allowance and cost, and jars needed against stock for every paste. |
| **Method** | How every number is calculated, with assumptions, limits and sources. |
| **Verify** | Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference. |

## What each number means

| Quantity | How it is calculated | Units |
|---|---|---|
| **Theoretical** | Boards or panels x paste per board. | g |
| **Required** | Theoretical / usage efficiency. | g |
| **Waste allowance** | Required - theoretical. | g |
| **Paste cost** | Required / jar size x price per jar. | currency |
| **Cost per board** | Paste cost / boards or panels. | currency |

| Quantity | How it is calculated | Units |
|---|---|---|
| **Jars needed (paste)** | The paste's required grams over every job / jar size, rounded up. | jars |
| **Jars to order** | Jars needed - jars in stock, never below 0. | jars |
| **Stock status** | Over capacity when more jars are needed than in stock; Near capacity from the threshold on Setup; Under capacity below it. | - |

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Dashboard with the example data for Sterling EMS, a fictional business.

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Engineering estimates for planning and improvement work. Verify the results against your own process, data and standards before you rely on them.

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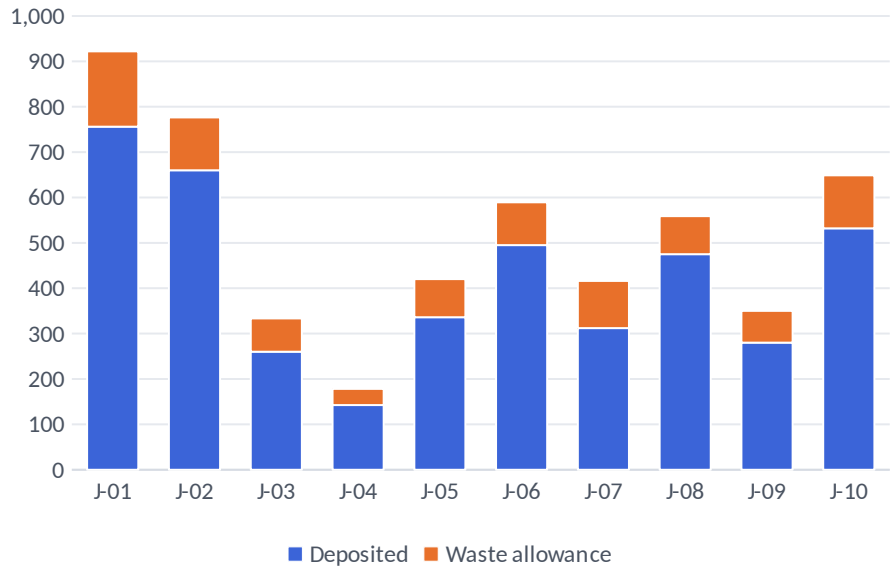
*Paste required for every job, its waste allowance and cost, and jars needed against stock for every paste.*

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*Sterling EMS (example), Week 47: 10 jobs, 8,400 prints on 5 pastes. Amounts in USD.*

| JOBS | PASTE REQUIRED (G) | PASTE COST (USD) | PASTES SHORT OF STOCK |
|---|---|---|---|
| **10** | **5,193** | **1,034** | **1** |
| Rows on Jobs | Deposit / usage efficiency | Required at the jar price | More jars needed than in stock |

## Paste deposited and wasted by job (g)




## Jars needed against in stock

