

## Introduction to SMT Stencils

The sole purpose of an SMT stencil is to transfer solder paste to a bare circuit board. A stainless steel foil is laser cut creating an opening for every surface mount device on the board. Once the stencil is properly aligned on top of the board, solder paste is applied over the openings (making a single pass, using a metal squeegee blade). When the stainless steel foil is separated from the board, solder paste will remain, ready for placement of the SMD. This process, as opposed to hand soldering methods, ensures consistency and saves time.

Stainless steel foil thickness and aperture opening size control the volume of paste deposited on the board. Too much solder paste causes solder balling, bridging, and tomb-stoning. A lack of solder paste creates insufficient solder joints. All of which compromise the electrical functionality of the board.

Proper foil thickness is chosen based on the types of devices being loaded on the board. Component packages such as 0603 capacitors or 0.020" pitch SOICs, will require a thinner solder paste stencil than larger packages such as 1206 capacitors or 0.050" pitch SOICs. Solder paste stencil thickness ranges from 0.001" to 0.030". The typical foil thickness used on the majority of boards is anywhere from 0.004" to 0.007".

Need more information? Check out the [Stencils FAQ page](#). See the chart below for more details on the stencils available.

PCBQuick the conventional PCB Stencil size specifications are as follows:

**300\*400MM 370\*470MM 400\*500MM 420\*520MM 470\*550MM 500\*600MM 550\*650MM 550\*736MM  
450\*540MM 540\*540MM 584\*584MM 736\*736MM**

**Other special sizes can be customized.**

PCBQuick the PCB Stencil Conventional steel thickness:

**0.08 / 0.1 / 0.12 / 0.13 / 0.15 / 0.18 / 0.2 / 0.25 / 0.3 mm**

**Special thickness can be customized.**

**Our company name: Shenzhen King Fung Technology Co.,LTD**

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