



Stencil underside cleaning and manual post-cleaning / 1

Qualified cleaning with the right cleaning medium avoids production losses and additional costs

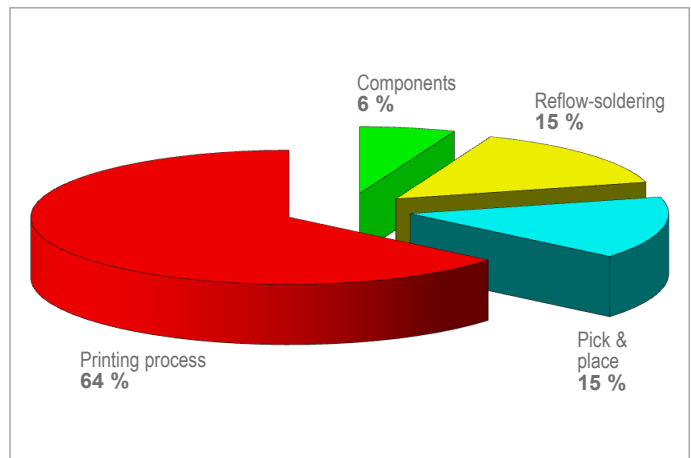
According to experts, between 60 and 70 percent of all defects and failures during or after the soldering process are attributable to defects in the printing process (Fig. 1). In general, these are faulty solder joints, which in turn have their causes in solder paste printing mistakes. Therefore, the stencils used in the assembly process must already be cleaned during the printing process - if not, soldering errors are definitely pre-programmed caused by luting and bridges.

Especially in the fine and ultrafine pitch range, many details (a stencil designed for wafer production can easily have more than 300,000 apertures) are no longer visible to the naked eye. Microscopic carry-overs cause a noticeable loss of quality or lead later to failures or rework, which can amount to about 25% of the manufacturing costs of an assembly.

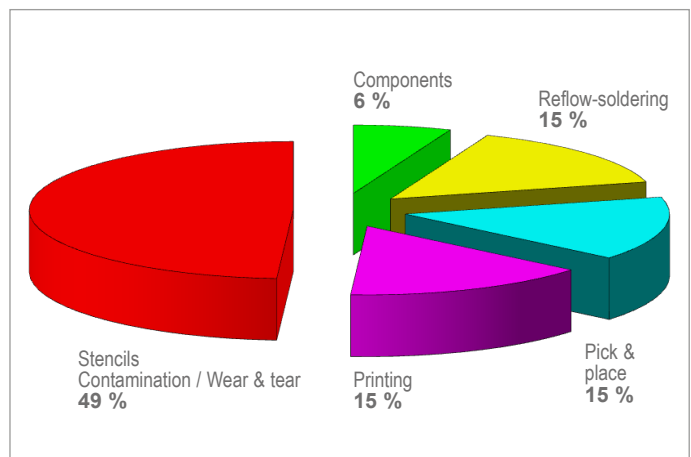
It is seriously assumable that the failure rate of 15% each during picking and placing and soldering would also be of a similar value for the machine printing performance, considering the use of always perfectly new and cleaned stencils. As a reverse conclusion, this means that almost 50% of process-related failures - besides wear and tear - are attributable to poor or inadequate cleaning of the relevant production tools (stencils, squeegees) (Fig. 2).

In order to ensure a qualified printing process in a SMD screen printer as long as possible before the stencil has to be externally machinery cleaned, it is necessary to clean the underside of the stencil from flux residues already inside the screen printer.

In modern screen printers, this usually happens during the process through an automatic bottom cleaning unit, using cleaning fleeces and a suitable ready-to-use detergent.



(Fig. 1) **Process-related failures: Approx. 64% are related to deficits in the entire printing process.**



(Fig. 2) **The stencil area alone is responsible for almost half of the total failures.**



kolb information



Stencil underside cleaning and manual post-cleaning / 2

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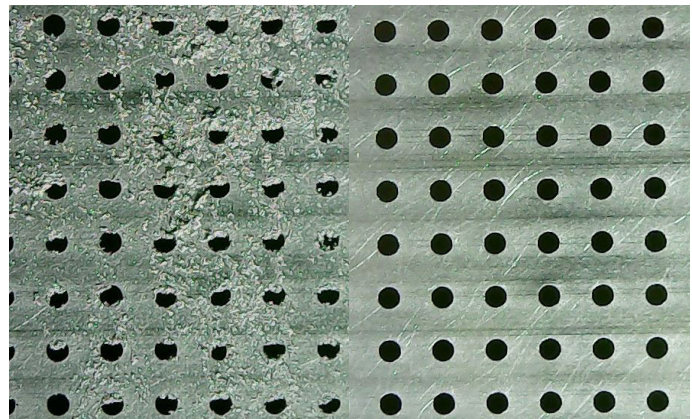
A suitable stencil cleaner for use in screen printers such as **kolb WipeEx® SA120**, which has been specially developed for this purpose, offers qualified and efficient cleaning performance due to the following factors:

- Optimal flow and wetting properties
- 1-phase (aqueous, stable)
- Cleans SMD paste and SMD glue
- Cleans in contaminated state
- Fast, residue-free evaporation / drying
- Does not change the viscosity of the adhesive
- Does not cause polymerization (curing) of the adhesive.
- No classification as dangerous good
- Non-critical flash point (optimal > 120 ° C)
- Biodegradable (92% after 28 d [OECD Test 301A])
- Low odor (with fresh scent)



In certain cases, manual (re) work on the stencils may be necessary; or, when it comes to cleaning squeegees by hand, to avoid carryover here too. For that **kolb** offers **WetWipes®**, **WipeEx® SA120** impregnated, ready-to-use cleaning wipes with the following advantages:

- Cleaning fleece especially for stencils with fine apertures (polyester with refined pulp fibers)
- Low to no particle delivery
- Evenly soaked
- High elasticity / tear strength with high absorption of the medium / paste mixture



WipeEx® SA120 is available in the following packaging:

Stencils apertures before and after cleaning with **WipeEx® SA120**



10l ready to use mixture
Container



150 fleece tissues
Dispense-Container



100 fleece tissues
ESD-safe metal can



100 fleece tissues
ESD-safe refill package