

TECHNICAL REPORT

For those who need help with screen printing equipment.

Screen Printing troubleshooting

Screen Printing Q & A [Equipment]

We would like to introduce how to deal with questions and troubles in equipment used for screen printing.



1. What tools are required for screen printing?

The tools used in screen printing are specialized tools except for equipment and have no versatility. It is necessary to select according to size, shape, accuracy, quantity, and production volume required by the customer.

Printing machines, drying machines (including UV irradiation machines), squeegee polishing machines (for maintenance), and stirring machines are required.

In addition, measuring instruments, spatulas (for inks), rubber gloves and goggles (work protective equipment), cleaning solvents, waste cloths, etc. are required as equipment.

Item	Solution
Printing	It is necessary to have the right machine, stencil, ink, squeegee, doctor, substrate and ink (solvent type/UV Curing) to meet the printing specification.

2. What type of squeegee is suitable?

Squeegee rubbers for screen printing are available in flat type, sword tip, various hardness, and resistance to solvent and UV according to each manufacturer. Individual selection is necessary according to design, printing condition and various types of inks.

Item	Solution
Printing	<ul style="list-style-type: none"> • Soft 60 to 70 degree is good for thick layer printing. • Hard 80 degree is good for thin layer printing. • Soft type is good for functional ink (MIR, Metallic, Pearl, phosphorescent)

3. Why do you choose the rubber hardness of squeegee depending on the printed material?

Differences in hardness are necessary because the finish of the printed material varies depending on characteristics of design (solid, letter, fine line, dot), characteristics of ink (functionality), and characteristics of stencil (mesh size, tension).

Item	Solution
Substrate	<ul style="list-style-type: none"> • Soft ones are good for uneven surface. • Hard ones are acceptable for smooth substrate without unevenness.
Ink	<ul style="list-style-type: none"> • Selection of hardness is especially important for functional ink (Metallic, Pearl, phosphorescent, MIR, etc.).
Printing	<ul style="list-style-type: none"> • Soft rubber (60 to 70 degree) thickens printed ink layer. • Hard rubber (80 to 90 degree) thins printed ink layer.

4. What type of stencil do you need to prepare?

Stencil need to be individually selected for the desired product, including size, mesh selection, accuracy, emulsion (one- or two-component), ink layer thickness, mesh tension, and relationship with the ink to be used, all of which are important factors.

Item	Solution
Stencil	<ul style="list-style-type: none"> • For thick ink layer printing, mesh thread diameter is the thick T type and ink layer thickness of emulsion is thicker (For thin ink layer printing, mesh thread diameter is the thin S type and ink layer thickness of emulsion is thinner). • To prevent design moire and ensure good printability, screen angle should be considered based on 22.5 degree. • For clean boundary and saw edge, the emulsion ink layer should be thicker (backside: 12~18μ). (Film coating of emulsion is also effective) • To improve printing accuracy, use high tension (0.9 to 1.0 mm) and print with as much as margin from the frame (30% or more of the frame size).

5. Is there anything to keep in mind when selecting a scraper.

Scrapers (doctor blades) are generally set up by machine manufacturer, exclusively for aluminum or stainless-steel materials in shape and length. Please contact the machine manufacturer for custom made products.

Item	Solution
Printing	<ul style="list-style-type: none">• The new one should be sharpened with sandpaper to remove burr and a half-round finish before use because the cutting edge (the part that hits the mesh) is sharp.• For thick layer and functional inks, press the ink onto the screen strongly.• For thin layer printing, float from the stencil and do not push ink onto the screen.