Textile Printing

Troubleshooting Guide

Print losing detail/sharpness

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Mesh too coarse for image detail	Use finer mesh count for detailed images.
Ink too thin	Use thicker viscosity ink. Follow manufacturer limits on viscosity reducers. Use only recommended additives.
Stencil too thin	Increase the number of emulsion coats for thicker stencil. Use round edge scoop coater for initial coats.
Excessive print strokes	Minimize print strokes.
Printing stroke in both directions	Use same printing direction for multiple print strokes.
Squeegee edge dull	Sharpen or replace worn squeegee blades.
Squeegee angle too low	Raise and maintain squeegee angle during print stroke.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum.
Flood pressure excessive	Reduce flood pressure.
Squeegee too soft	Use harder durometer squeegee.
Garment too absorbent or rough	Adjust artwork resolution for garment limitations.
Printing surface too soft	Replace with harder printing surface.
Stencil severely underexposed	Use exposure calculator to determine proper exposure time. Check lamp for consistency and level of output.
Pallet loose	Tighten pallet holding mechanism securely.
Screens not clamped securely	Check clamps to determine if tightening, repairing or replacing is necessary.

Double image appears after several print strokes

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Printing stroke in both directions	Use same printing direction for multiple print strokes.
Shirt moving	Re-apply spray adhesive.
Pallets loose	Tighten pallet holding mechanism securely.
Screen frames warped or unstable	Replace warped or damaged frames. Remake screens with flat stable frames. Use metal or retensionable frames for best results.
Screen moving	Clamp screen securely.
Pallet arm weak	Reinforce pallet arm to remain stable under squeegee stroke pressure.
Off-contact not used	Print with off-contact for sharp prints.

Print is blurred at the top of design only

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Squeegee angle too low at end of print stroke	Maintain proper squeegee angle during entire print stroke.
Excessive ink in screen well	Reduce amount of ink in screen so it does not flow back on the image.
Flood stroke too short	Extend length of flood stroke to go past image.
Off-contact uneven	Ensure off-contact is uniform front to back on screens.
Pallet arm weak	Reinforce pallet arm to remain stable under squeegee stroke pressure.

Print edges are smeared

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Squeegee pressure insufficient	Increase squeegee pressure or reduce off-contact distance.
Squeegee too soft	Use harder durometer squeegee.
Pallets loose	Tighten pallet holding mechanism securely.
Shirt moving during printing	Re-apply spray adhesive.
	Use a screen frame with minimum free mesh area of 3 inches (8

Colors merging or blurring together after a few prints

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum.
Squeegee too soft	Use harder durometer squeegee.
Ink buildup on bottom of screens excessive	Use ink designed for wet-on-wet printing. Minimize print strokes. Use sharper squeegee. Hold squeegee at higher angle. Use faster squeegee stroke. Print in only one direction. Decrease floodbar or stroke pressure. Use a finer mesh. Use harder printing surface on pallet. Wipe screens as needed to reduce build-up.
Artwork has too much overlap	Remake artwork with less image trap.
Too much solid color on color	Minimize solid on solid color in artwork. Use halftones or mezzotints on solids.
Shirt moving during printing	Re-apply spray adhesive.
Pallets loose	Tighten pallet holding mechanism securely.
Screen moving	Check all clamps and tighten. Check screen frame for structural integrity.

Excessive ink buildup on bottom of screens

Possible Causes	Possible Solution
Ink deposit excessive	Minimize print strokes. Use sharper squeegee. Use harder durometer squeegee. Hold squeegee at higher angle. Use faster squeegee stroke. Decrease floodbar or stroke pressure. Use harder printing surface on pallet. Use a finer mesh.
Ink selection incorrect	Use ink designed for wet-on-wet printing.
Print order incorrect	Print smallest areas to the largest areas of coverage. Print dark colors first and end with lightest when possible.
Screen tension insufficient	Use screens with higher tension.
Off-contact not used	Print with off-contact to reduce ink buildup.
Fluorescent ink used	Avoid fluorescent inks when possible.
Artwork has too much overlap	Remake artwork with less image trap.
Substrate not very absorbent	Flash between colors.

Incomplete or thin ink coverage

Possible Causes	Possible Solution
Mesh too fine	Use coarser mesh.
Insufficient printing strokes	Increase number of printing strokes.
Print stroke too fast	Use slower stroke to allow ink to flow through mesh.
Squeegee pressure insufficient	Use sufficient squeegee pressure to clear ink from screen.
Shirt weave loose	Use thicker ink. Increase number of print strokes.
Squeegee too hard	Use softer durometer squeegee.

Mottled or uneven ink coverage

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum.
Insufficient printing strokes	Increase number of printing strokes.
Off-contact not used	Print with off-contact for good surface deposit.
Mesh too fine	Use coarser mesh.
Ink selection incorrect	Use high opacity inks on dark garments.
Under-print surface is rough	Improve uniformity of under-print.

Ink layer has poor opacity or looks washed out

Possible Causes	Possible Solution
Ink selection incorrect	Use high opacity inks on dark garments. Use a low-bleed ink on dark garments containing polyester.
Mesh too fine	Use coarser mesh.
Garment dye color bleeding into ink *(dye migration)*	Use low-bleed ink on dark garments containing polyester. Cure ink longer at lower temperature. Use 100% cotton garments whenever possible.
Insufficient printing strokes	Increase number of printing strokes.
Ink deposit too thin	Complete two print strokes flashing the ink in between. Increase stencil thickness on screen.
Print stroke too fast	Use slower stroke to allow ink to flow through mesh.
Squeegee too soft	Use harder durometer squeegee.
Squeegee pressure insufficient	Use sufficient squeegee pressure to clear ink from screen.
Printing surface too soft	Replace with harder printing surface.
Print order incorrect	Print smallest areas to the largest areas of coverage. Print dark colors first and end with lightest when possible.
Fibers showing through ink after washing *(fibrillation)*	Increase printed ink thickness.
Transparent ink printed on top of flashed white ink	Use opaque inks to ensure color brilliance.
Artwork too broken up	Keep dominant areas and outlines solid. Use halftones only when appropriate.

Print has blemishes, pocks or irregularities in same place on each print

Possible Causes	Possible Solution
Debris stuck to pallet	Clean pallet of debris periodically.
Debris stuck on screen	Clean bottom of screen with press wash to remove debris.
Pallet adhesive buildup excessive	Clean pallet and reapply adhesive. Use pallet tape for quick and solvent free clean up.
Squeegee nicked or irregular	Sharpen or replace worn squeegee blades.
Debris present in ink	Remove debris out of ink in screen.
Pallet has low spot pocks or irregularities	Repair pits, holes or imperfections in pallet.
Film positive has pinholes	Repair positive with opaquing marker and re-expose.

Ghost image in print

Possible Cause	Potential Solution
Mesh reclaimed incorrectly	Remake stencil on properly cleaned mesh.
Screen mesh damaged, abraded or burnished	Remake stencil on new or undamaged mesh.

Difficulty matching colors

Possible Causes	Possible Solution
Substrate color and texture affecting ink color	Simulate production conditions when color matching i.e. same substrate, screen, squeegee etc.
Inks contaminated with undesirable component pigments	Use fresh ink for color matching, not previously mixed colors.
Lighting incorrect	Check all colors for approval in a light box with standard light sources such as D50. Use well lit consistent area for color matching.
Color is metameric *(match changes from one light source to another)*	Avoid using fluorescent pigments. Match color under light source end product will be viewed.
Employee training insufficient	Provide sufficient color matching technique training to employees.
Color matcher color blind	Check color matcher for color blindness.

Plastisol ink bleeding or wicking into garment

Possible Causes	Possible Solution
Ink too thin	Use thicker viscosity ink. Follow manufacturer limits on viscosity reducers. Use only recommended additives.