



## Textile Printing Troubleshooting Guidelines

Print losing detail/sharpness	
Possible Cause	Potential 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.

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

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

<b>Print edges are smeared</b>	
Possible Cause	Potential Solution
<b>Screen tension insufficient</b>	Use screens with higher tension.
<b>Squeegee pressure insufficient</b>	Increase squeegee pressure or reduce off-contact distance.
<b>Squeegee too soft</b>	Use harder durometer squeegee.
<b>Pallets loose</b>	Tighten pallet holding mechanism securely.
<b>Shirt moving during printing</b>	Re-apply spray adhesive.
<b>Image too close to frame</b>	Use a screen frame with minimum free mesh area of 3 inches (8 cm) or more around the image.
<b>Ink additives used improperly</b>	Follow manufacturer limits on ink additives. Use only recommended additives.

<b>Colors merging or blurring together after a few prints</b>	
Possible Cause	Potential Solution
<b>Screen tension insufficient</b>	Use screens with higher tension.
<b>Squeegee pressure excessive</b>	Reduce squeegee pressure to a minimum.
<b>Squeegee too soft</b>	Use harder durometer squeegee.
<b>Ink buildup on bottom of screens excessive</b>	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.
<b>Artwork has too much overlap</b>	Remake artwork with less image trap.
<b>Too much solid color on color</b>	Minimize solid on solid color in artwork. Use halftones or mezzotints on solids.
<b>Shirt moving during printing</b>	Re-apply spray adhesive.
<b>Pallets loose</b>	Tighten pallet holding mechanism securely.
<b>Screen moving</b>	Check all clamps and tighten. Check screen frame for structural integrity.

## Excessive ink buildup on bottom of screens

Possible Cause	Potential Solution
<b>Ink deposit excessive</b>	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.
<b>Ink selection incorrect</b>	Use ink designed for wet-on-wet printing.
<b>Print order incorrect</b>	Print smallest areas to the largest areas of coverage. Print dark colors first and end with lightest when possible.
<b>Screen tension insufficient</b>	Use screens with higher tension.
<b>Off-contact not used</b>	Print with off-contact to reduce ink buildup.
<b>Fluorescent ink used</b>	Avoid fluorescent inks when possible.
<b>Artwork has too much overlap</b>	Remake artwork with less image trap.
<b>Substrate not very absorbent</b>	Flash between colors.

## Incomplete or thin ink coverage

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

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

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

## Ink layer has poor opacity or looks washed out

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

## Difficulty matching colors

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

<b>Ghost image in print</b>	
Possible Cause	Potential Solution
<b>Mesh reclaimed incorrectly</b>	Remake stencil on properly cleaned mesh.
<b>Screen mesh damaged, abraded or burnished</b>	Remake stencil on new or undamaged mesh.

<b>Plastisol ink bleeding or wicking into garment</b>	
Possible Cause	Potential Solution
<b>Ink too thin</b>	Use thicker viscosity ink. Follow manufacturer limits on viscosity reducers. Use only recommended additives.