



Graphic Registration Troubleshooting Guidelines

Image registration shifting print to print	
Possible Cause	Potential Solution
Registration guides improperly placed	Position guides in three-point system. Place register guides in same positions on each color.
Substrate fed incorrectly	Check automatic machine feeder. Ensure operator uses care in registering substrate. Minimize static electricity.
Substrate shifting	Ensure vacuum is sufficient. Check substrate edge for inconsistencies. Use the same press for all colors.
Registration guides loose	Check and stabilize registration guides.
Registration adjustment system moving	Lock registration adjustment system securely.
Screen frame moving	Clamp screen securely.
Screen tension insufficient	Use screens with higher tension.
Off-contact/peel inconsistent	Adjust each screen to the same off-contact/peel distance. Ensure off-contact is uniform front to back and side to side.
Screen frame warped or unstable	Repair or replace warped or damaged frames. Use correct frame profile for size and tension level to prevent excessive frame bowing. Use metal or retensionable frames for best results.
Mesh unstable	Check for rips/damage and replace as needed. Use polyester or stainless steel fabric.
Press out of alignment	Adjust press for parallelism. Check vacuum table level.
Press not repeatable	Replace press parts that are worn out of specification.
Image dislocated during printing	Remove excessive tape on bottom of screen. Check for substrate irregularities. Ensure registration guides are not much higher than substrate.

Image center out of register	
Possible Cause	Potential Solution
Squeegee too soft	Use harder durometer squeegee.
Squeegee angle too high	Lower squeegee angle.
Off-contact/peel insufficient	Increase off-contact and/or peel.
Screen tension insufficient	Use screens with higher tension.
Screen tension uneven	Ensure screens have uniform tension. Check for mesh rips/damage and replace as necessary.

Image shrunk in one or both directions	
Possible Cause	Potential Solution
Off-contact/peel insufficient	Increase off-contact and/or peel.
Screen tension insufficient	Use screens with higher tension.
Squeegee pressure insufficient	Increase squeegee pressure.
Squeegee too soft	Use harder squeegee durometer.
Exposure vacuum pressure too high	Repair any tears or holes in vacuum blanket. Follow manufacturer recommendations for vacuum pressure.
Film out of register	Remake films to register properly. Ensure image enlargement done at same percentage on all colors. Check output device for distortion.
Mesh detached from or slipped out of frame	Re-image on properly attached screen.
Film positive layered excessively	Re-image positive into one layer of film.

Image corners out of register	
Possible Cause	Potential Solution
Squeegee angle too low	Raise squeegee angle.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum.
Squeegee too soft	Use harder squeegee durometer.
Squeegee blade too long	Select squeegee 1-2 inches (3-5 cm) wider on each side of image.
Off-contact/peel excessive	Reduce off-contact and/or peel.
Screen frame warped or unstable	Repair or replace warped or damaged frames. Use correct frame profile for size and tension level to prevent excessive frame bowing. Use metal or retensionable frames for best results.
Frame too small for image size	Select a frame size so image takes up no more than 70% of the total mesh area.
Screen tension insufficient	Use screens with higher tension.
Screen tension uneven	Ensure screens have uniform tension. Check for mesh rips/damage and replace as necessary.
Mesh detached from or slipped out of frame	Re-image on properly attached screen.
Mesh unstable	Check for rips/damage and replace as needed. Use polyester or stainless steel fabric.
Squeegee pressure uneven	Ensure squeegee pressure is uniform side to side and front to back.
Image dislocated during printing	Remove excessive tape on bottom of screen. Check for substrate irregularities. Ensure registration guides are not much higher than substrate.

Image elongated in one or both directions	
Possible Cause	Potential Solution
Screen tension insufficient	Use screens with higher tension.
Substrate shrinking	Run stock through dryer prior to printing. Store stock in environmentally controlled conditions. Lower dryer temperature or increase dryer belt speed. Improve cooling/air flow in dryer. Use more stable substrate.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum.
Off-contact/peel excessive	Reduce off-contact and/or peel.
Frame too small for image size	Select a frame size so image takes up no more than 70% of the total mesh area.
Screen tension varies screen to screen	Use screens similar in tension for multi-color work. Use frames similar in size.
Press out of alignment	Adjust press for parallelism. Check vacuum table level.
Squeegee too hard	Use softer durometer squeegee.
Squeegee blade too long	Select squeegee 1-2 inches (3-5 cm) wider on each side of image.
Squeegee pressure uneven	Ensure squeegee pressure is uniform side to side and front to back.
Off-contact/peel inconsistent	Adjust each color screen to the same off-contact/peel distance. Ensure off-contact is uniform front to back and side to side.
Film changing from heat	Use more dimensionally stable film positives.
Film out of register	Remake films to register properly. Ensure image enlargement done at same percentage on all colors. Check output device for distortion.
Exposure vacuum pressure too high	Repair any tears or holes in vacuum blanket. Follow manufacturer recommendations for vacuum pressure.