



TROUBLESHOOTING CHECKLIST (Direct Emulsion)

Problem	Possible Cause	Solution
Poor definition (edge sharpness) or "sawtoothing" (irregular printing edge)	Poor contact during exposure	Check vacuum
	Underexposure	Perform Stouffer 21 step test
	Light scattering	Use dyed mesh
	Insufficient washout	Wash from both sides
	Poor buildup of emulsion	Improve coating technique
	Mesh too coarse	Use higher mesh count
Stencil softness	Improper mixing of sensitizer	Dissolve sensitizer thoroughly, mix well with emulsion
	Underexposure	Perform Stouffer 21 step test
	Emulsion too old	Review storage guidelines
	Positives "yellowed"	Use new positives
	Excessive humidity	De-humidify area, increase exposure
Open-area "haze"	Positives lack density	Use new positives
	Poor contact during exposure	Check vacuum
	Light scattering	Use dyed mesh
	"Pre-exposure" of coated screen	Use safelights; store coated screens in dark
	Over/underexposure	Perform Stouffer 21 step test
	Insufficient washout	Check washout procedure
Emulsion washes or peels away during washout	Coating not uniform	Upgrade mesh stretching and coating procedure
	Improper mixing of sensitizer	Dissolve sensitizer thoroughly, mix well with emulsion
	Underexposure	Perform Stouffer 21 step test
	Improper mesh preparation	Degrease all mesh; roughen and degrease synthetics
	Washout temperature too high	Washout below 100° F
	Emulsion too old	Review storage guidelines
	Emulsion not dry before exposure	Dry screen sufficiently; use screen drying cabinet
	Excessive humidity	Increase exposure; dehumidify shop
Pinholes appear after exposure and washout	Dirt and dust settling on drying emulsion	Dry in dust-free environment
	Dirt on positive or contact glass	Wipe positives; use window cleaner on contact glass
Pinholes/fisheyes appear before exposure	Improper mesh preparation	Degrease
	Shop dirt and dust	Housecleaning overdue
	Wet mesh	Dry mesh
	Dirt and dust settling in coater or emulsion container	Cover coater and emulsion
	Coating stroke too fast	Slow down; turn screen 180° after each stroke
	Air trapped during mixing	Allow 1-hour (minimum) for de-bubbling on mixed emulsions
	Poor coating procedure	Upgrade coating method
Pinholes on-press	Underexposure	Perform Stouffer 21 step test
	Incompatible ink or washout solvent	Use solvent-resistant emulsion
	Washout solvent or solvent ink contain water	Avoid solvent storage in large drums (condensation)
	Frit/pigmented inks; rough substrate	Assuming proper coating and exposure, use more abrasion resistant emulsion such as FX88
Details remain closed after washout	Coated screen stored too long	Use freshly coated screen
	"Pre-exposure" of coated screen	Work under yellow safelights; store coated screens in dark
	Drying temperature too high	Dry below 104° F
	Overexposure	Perform Stouffer 21 step test
	Poor contact during exposure	Check vacuum
	Poor positive	Check density
	Light scattering	Use dyed mesh
	Poor light source	Use finer mesh; use faster-exposing emulsion; upgrade light source
	Incomplete washout	Wash very thoroughly from both sides
	Light source too close	Where possible, min. exposure distance should be 1½ times image area diagonal