



Screen Printing
Technical Foundation

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Troubleshooting Guide

Textile Plastisol Curing

Plastisol ink not curing evenly	
Possible Causes	Possible Solution
Garments improperly placed on dryer belt	Place garment on belt so entire imprint is exposed to heating elements. Mark dryer to show correct garment placement for proper cure.
Dryer belt overloaded	Reduce number of garments on belt. Adjust dryer temperature or belt speed for full load.
Ink deposit inconsistent	Ensure pallet is level to screen. Increase heat or time to compensate for thicker ink film. Use consistent squeegee pressure throughout print stroke. Ensure screens are properly tensioned.
Dryer temperature too low	Raise dryer temperature and/or slow belt speed to achieve cure.
Dryer belt speed too fast	Slow down belt and/or raise dryer temperature to achieve cure.
Dryer has inconsistent hot or cold spots	Test heating elements for proper operation.
Ink additives used improperly	Follow manufacturer limits on ink additives. Use only recommended additives.
Moisture in garments excessive	Use forced-air dryer. Run garments through dryer or flash dry prior to printing.

Fabric scorching	
Possible Causes	Possible Solution
Dryer belt speed too slow	Increase belt speed and/or raise dryer temperature to achieve cure without scorching.
Dryer temperature too hot	Lower dryer temperature and adjust belt speed to achieve cure without scorching.
Garment placed on dryer belt improperly	Lay garment as flat as possible. Raise heating elements of dryer if possible.

Garment dye color bleeding into ink (dye migration)	
Possible Causes	Possible Solution
Ink selection incorrect	Use a high opacity, low bleed ink on garments containing polyester.
Dryer temperature too hot	Lower dryer temperature and adjust belt speed to achieve cure, but not over cure ink.
Ink thickness insufficient	Complete two print strokes, flashing the ink in between. Increase stencil thickness on screen. Use coarser screen mesh.
Polyester garment prone to migration	Pretest all 50/50 polyester garments at least a week in advance. Process at lowest possible temperatures. Try various garment manufacturer brands. Switch to 100% cotton garments if possible.
Ink under-cured	Check dryer for correct temperature. Slow down belt or raise dryer temperature to achieve cure. Perform wash test to ensure proper cure.

Low bleed white ink bubbling during curing	
Possible Causes	Possible Solution
Ink deposit too thick	Minimize print strokes Use sharper squeegee Use finer mesh Reduce stencil thickness
Dryer temperature too hot	Lower dryer temperature and adjust belt speed to achieve cure.

Garments sticking together in stack	
Possible Causes	Possible Solution
Garment cooling insufficient	Use fan at end of dryer to cool shirts. Lengthen off-load end of dryer to allow more cooling time.
Dryer off-loaded improperly	Stack hot garments in alternate piles to increase cool time.

Plastisol ink peeling, cracking, washing off garment after first washing	
Possible Causes	Possible Solution
Ink under-cured	Check dryer for correct temperature. Slow down belt or raise dryer temperature to achieve cure. Perform wash test to ensure proper cure.
Ink additives used improperly	Follow manufacturer limits on ink additives. Use only recommended additives.
Sizing or finishing agents on garment excessive	Run garments through dryer several times to break down surface treatments.
Ink not penetrated into garment adequately	Increase squeegee pressure. Use harder squeegee durometer.

Printed image rubbing off garment (Crocking)	
Possible Causes	Possible Solution
Ink under-cured	Check dryer for correct temperature. Slow down belt or raise dryer temperature to achieve cure. Perform wash test to ensure proper cure. If print passes cure evaluation but still crocks, add a clear base.
Ink pigment level excessive	Add clear base. Consult manufacturer for maximum pigment levels.
Ink modified improperly	Follow manufacturer directions when modifying plastisol inks.

A “ halo” or oily film bleeding around print from plastisol ink	
Possible Causes	Possible Solution
Ink not cured quickly enough	Cure prints immediately after printing.
Ink under-cured	Check dryer for correct temperature. Slow down belt or raise dryer temperature to achieve cure. Perform wash test to ensure proper cure.
Viscosity reducers used improperly	Follow manufacturer limits on viscosity reducers. Use only recommended additives.

Inconsistent dryer performance	
Possible Causes	Possible Solution
Thermocouple faulty	Check proper position of thermocouple. Ensure thermocouple has no burned or broken wires or parts. Replace faulty parts as necessary.
Temperature controller faulty	Check for proper operation of controller. Replace faulty parts as necessary.
Wires loose or terminals corroded	Check amperage on all lines to ensure wires are not broken. Repair if necessary. Tighten all connections to terminals. Periodically inspect terminals for corrosion, clean and retighten.
Magnetic contactor bad	Check operation of contactor and repair or replace as necessary.
Fuse blown	Check voltage from fuses and replace as necessary. Correct cause of blown fuse.
Belt speed inconsistent	Check for obstructions in dryer belt drive chain. Check pulleys and sprockets for tightness. Check operation of drive motor and gear box.
Exhaust system faulty	Check for proper operation of exhaust fan. Check for obstruction in vent pipe. Ensure proper cap is on stack to eliminate outside air infiltration. Check for excessive buildup of lint, soot and resins on exhaust fan assembly, clean as necessary.
Blower malfunctioning (forced air dryers only)	Check for lint buildup on blower intake and clean regularly. Check drive train of blower for proper operation. Remove any obstructions.

Dryer temperature fluctuates throughout day	
Possible Causes	Possible Solution
Voltage to dryer inconsistent	Measure incoming line voltage with voltmeter.
Dryer relays sticking	Replace sticking heating element relays or contacts.