

Screen Printing — Workbook

This workbook turns the course into a working print practice. Each section maps to a course module and gives you exercises, fill-in worksheets, and checklists to build your studio, dial in exposure, hold registration, and reclaim screens. Use the templates to log exposure tests, plan multi-color jobs, and track cure settings so your results become repeatable rather than lucky.

Setting Up the Studio and Choosing Materials

Plan your three workspace zones and lock in mesh, ink, and emulsion choices before spending money.

Exercise: Map Your Three Zones

Sketch your available space and assign three zones: coating and drying (dark, dust-free, amber light), printing (flat, fixed clamp), and washout (water and drain). Note what physically separates them and what amber light source you will install.

- Where will coated screens dry in the dark, and how will you keep dust off them?

- What amber or safelight bulb will you install in the coating zone, and is any white LED leaking UV into it?

- How far apart are your wet washout area and your dry coating area, and is that enough to avoid splash and dust crossover?

Worksheet: Job-to-Materials Selector

For the first three jobs you want to print, fill in each row to commit to a mesh count, ink system, and emulsion before buying anything.

Job name and substrate (paper or specific fabric)

Light or dark substrate

Detail level (bold / fine line / halftone)

Chosen mesh count

Chosen ink system (plastisol / water-based / discharge / graphic)

Hand feel goal (soft / opaque / does not matter)

Number of colors

Emulsion type (diaz / SBQ / dual-cure)

Checklist: Starter Kit Acquisition

- Aluminum screens in 110 and 156 mesh acquired
- 70 durometer polyurethane squeegee sized 5 cm narrower than the image area
- Scoop coater sized about 5 cm narrower than the frame interior
- Photo emulsion plus appropriate sensitizer or pre-sensitized SBQ
- Amber or safelight bulb installed in the coating zone
- Hinge clamp on a plywood base or a tabletop press secured
- Pressure washer or strong spray nozzle for reclaiming
- Screen degreaser (not dish soap) on hand

Stencils: Film Positives, Coating, and Exposure

Produce opaque artwork, coat evenly, and find your exact exposure time with a step-wedge test.

Exercise: Density-Check Your Film Positive

Print a film positive of a test design that includes a fine line, small text, and a solid fill. Hold it against a bright light and inspect opacity, then decide whether you need to double up two films in register.

- Can you see any pinholes of light through the solid black areas? If so, how will you increase density?

- Does the smallest text and thinnest line hold solid black, or does it break up?

- Did you add registration marks outside the image area on every separation?

Worksheet: Step-Wedge Exposure Log

Run a five-strip step-wedge test on a fully dried, identically coated screen. Record each strip's cumulative exposure and the washout result, then circle the lowest fully hardened time as your standard exposure. Light source and wattage

Distance from light to screen (cm)

Emulsion type and coating ratio (e.g. 1+1)

Mesh count of test screen

Strip 1 time and washout result

Strip 2 time and washout result

Strip 3 time and washout result

Strip 4 time and washout result

Strip 5 time and washout result

Chosen standard exposure time

Checklist: Coat, Expose, Wash Out

- Screen degreased and fully dried before coating
- Coated under amber light only, thin and even, print side finished last
- Dried flat, print side down, in the dark until cool and matte
- Film positive placed emulsion-side to emulsion-side, taped flat to the glass
- Exposed for the step-wedge standard time
- Soaked 60 to 90 seconds, then washed from the print side with moderate pressure
- Held to light to confirm open areas are clear and crisp
- Pinholes and open border mesh blocked out with filler or tape

Printing on Paper and Fabric

Lock in your print stroke and off-contact, then hold registration across colors on each substrate.

Exercise: Off-Contact Snap Test

Print the same single-color image three times: once with zero off-contact, once with a 2 mm gap, and once with about a 5 mm gap. Compare smear, edge sharpness, and the pressure each required.

- Which off-contact gave the cleanest release with no smear on lift?

- How did the required squeegee pressure change as the gap increased?

- What spacer (coins, tape stack) gave you a reliable 2 mm gap you can repeat?

Worksheet: Multi-Color Registration Plan

Plan a two- or three-color job before you burn the screens. Define print order, trapping, and how each substrate piece will be loaded identically.

Number of colors and print order (first to last)

Underbase needed? (yes/no, and color)

Trap amount between adjacent colors (mm)

Registration method (printed guide sheet / press micro-reg / pins)

How stock is loaded the same way each time (L-lip / tabs / platen)

Flash or dry step needed between colors? (yes/no)

Test substrate used for setup before the real run

Checklist: Clean Pull Routine

- Off-contact set to about 2 mm with a repeatable spacer
- Squeegee blade inspected for nicks and confirmed sharp
- Flood stroke applied with light pressure before each print
- Print stroke pulled firmly at a steady 45 degrees in one pass
- Screen flooded again immediately after each print to prevent drying
- Registration checked against a guide sheet before printing the run
- Garments held with platen adhesive; paper seated against fixed tabs
- Drying rack or hang space ready before the run starts

Discharge Printing, Curing, and Reclaiming

Test discharge on the actual blank, verify cure by temperature and wash, and reclaim screens in order.

Exercise: Dischargeability Spot Test

Before committing to a discharge run, mix a small batch of base plus activator and print a swatch on the exact blank you plan to use. Cure it and record how the color develops from wet to final.

- Is the blank 100 percent cotton with dischargeable dye? What did the cured swatch reveal?

- How different was the developed color after curing compared to how it looked wet on the press?

- Did you have adequate ventilation and a respirator rated for the activator during curing?

Worksheet: Cure Verification Sheet

For each ink system you use, record the target cure conditions, the temperature you actually measured in the ink film, and the results of a stretch and wash test.

Ink system (plastisol / water-based / discharge)

Target cure temperature (C)

Heat source (heat press / flash / conveyor)

Dwell time or pass speed

Measured ink-film temperature (C)

Stretch test result (cracks? recovers?)

Wash test result (fading / peeling / pass)

Adjustment made if undercured

Checklist: Reclaim in Order

- All ink removed with the correct cleaner for that ink type
- Emulsion remover applied to both sides and kept wet, never allowed to dry
- Dissolved emulsion pressure-washed out from the print side until mesh is clear
- Ghost or haze remover applied and rinsed if a stain remains
- Screen degreased as the final step before next coating
- Gloves and eye protection worn throughout
- Screen stored vertically, away from dust and sunlight

Your Action Plan

1. Set up and physically separate your three zones, and install an amber light in the coating area
2. Acquire the starter kit: 110 and 156 mesh screens, a 70 durometer squeegee, scoop coater, emulsion, and degreaser
3. Output one opaque film positive with registration marks and confirm its density against a bright light
4. Coat a test screen 1 plus 1, dry it fully in the dark, and run a five-strip step-wedge exposure test
5. Record your standard exposure time and burn your first real stencil, then block out pinholes
6. Print a single-color job on paper, dialing in a 2 mm off-contact and a consistent flood-and-print stroke
7. Plan and print a two-color job with a registration guide sheet and a 0.3 mm trap
8. Print a garment with plastisol, including a flashed white underbase on dark fabric
9. Run a discharge spot test on your actual blank, then cure and verify color development
10. Verify cure by ink-film temperature plus a wash test, then reclaim the screen in order and log the job

