

INDEPENDENT PRINT TEST RESULTS

Fabric Stress-Test: 50/50 Poly-Cotton Blend vs. 100% Cotton

1. Dye Migration & Heat Curing Risks

Our lab testing reveals that the 50/50 blend carries a massive risk of dye migration during screen-printing. When we pushed a dark blend through our curing dryer at **320 degrees**, the heat activated the polyester dyes. The dark fabric dye bled directly into our light inks, causing a crisp white logo to turn a muddy pink.

To successfully print on 50/50 fabrics, you must tightly control your heat and use heavy grey blocker underbases. Overheating the garment will ruin the entire batch.

2. Embroidery & Dimensional Stability

However, the 50/50 blend wins for embroidery. The synthetic fibers hold their shape tightly across repeated laundering. A dense left-chest logo will not pucker, offering superior dimensional stability.

Note for Brands: If you operate as a streetwear manufacturer, keep in mind that your customers often care more about premium hand-feel (favoring 100% cotton) than maximum dimensional stability.

3. Durability & 20+ Wash Stress-Test Aging

To evaluate long-term durability and shrinkage, we subjected both fabrics to our facility's rigorous stress test. We ran the test garments through **20 brutal hot-wash and high-heat dry cycles** to map out aging and structural weaknesses over time.

⚠ Safety First: For absolute print safety without investing in specialized poly-blocker inks, stick to pure cotton.



APPLICATION WINNERS BREAKDOWN

Fabric Specification	Best For / Optimal Use Case
100% Cotton	Screen-printing, DTG (Direct-to-Garment), and vibrant artwork.
50/50 Blend	Heavy embroidery and applications requiring shape retention.