NATURAL STRETCH

cotton®

ALL-NATURAL COMFORT. UNEXPECTED FLEXIBILITY

Experience effortless movement and breathable comfort made entirely from cotton. This mechanical stretch construction enhances woven cotton fabrics with flexible ease and recovery, without using synthetic fibers.

ENGINEERED FOR EVERYDAY WEAR

This natural stretch construction gives cotton fabrics an easy, comfortable flexibility that moves with the wearer. It is ideal for shirting, chinos, denim, and other woven styles that benefit from added flexibility and comfort.

KEY BENEFITS

- 100% cotton construction that is naturally breathable, soft, and hypoallergenic[1]
- Flexible ease of movement with typical fill stretch of 10 to 18 percent, depending on fabric weight and weave[2]
- Durable recovery that maintains shape and comfort through repeated washing and wearing
- Low maintenance and no special care or heat-setting required
- Compatible with Cotton Incorporated finishes such as PUREPRESS™, STORM COTTON™, and TransDRY™ technologies

HOW IT WORKS

Mechanical stretch in cotton is created through precise control of cotton's natural structure. During weaving, warp yarns are spaced approximately 25 percent wider than normal and then allowed to shrink in a controlled way during slack mercerization. This process sets a gentle spring-like configuration into the weft yarns, providing built-in flexibility and resilient movement that is permanently locked into the cotton fiber.

Illustration of Natural Stretch Mechanism in Plain Weave Fabric[3]

Plain Weave, woven 25% wider at loom

Plain Weave, After Slack Mercerization

Plain Weave, Stretched Dimensions

The fabric is woven approximately 25% wider at the loom, then allowed to shrink in width during slack mercerization. The resulting crimp in the weft yarns provides natural, mechanical stretch and recovery in 100% cotton woven fabrics.

1 *Cotton Incorporated Comfort Testing Research (2014). AAT Research.*

2 *Weight versus stretch performance for plain weave and twill fabrics. Stretch testing per ASTM D3107.*

3 *Weight versus stretch performance for plain weave and twill fabrics. Stretch testing after 20 HLD per ASTM D3107.*

BUILT TO LAST

Because the stretch is mechanical rather than synthetic, this construction maintains its comfort and flexibility over time. Any relaxation that occurs during wear is restored after laundering, ensuring consistent performance and appearance throughout the life of the garment.[4]

TECHNICAL PERFORMANCE

- Typical fill stretch: 10 to 18 percent, depending on fabric weight and weave structure
- Works with standard cotton weaving and finishing equipment
- No elastomeric yarns required
- Compatible with common dyeing and finishing processes

Average Fill Stretch by Weave Type[4]

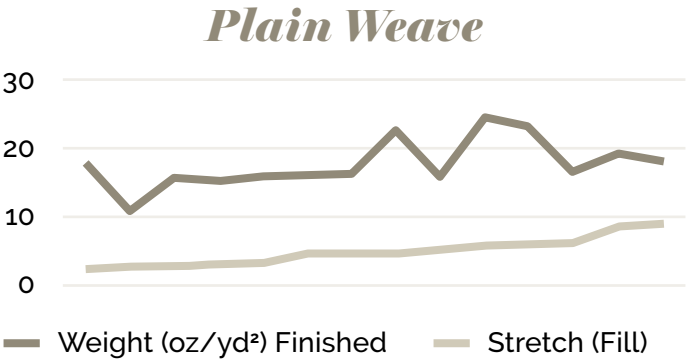

Figure 2: Weight versus stretch performance for plain weave fabrics. Stretch Testing per ASTM D3107.

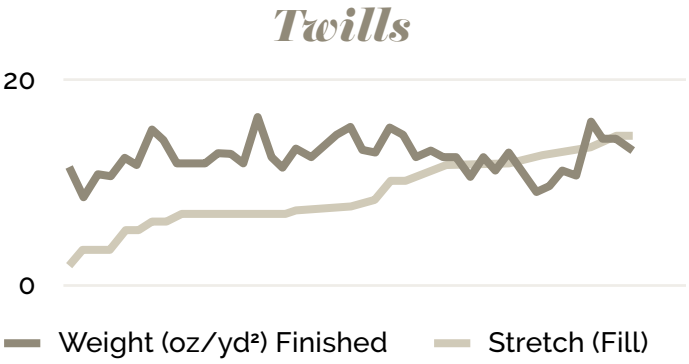

Figure 3: Weight versus stretch performance for twill fabrics. Stretch Testing per ASTM D3107.

4 *Concept and illustration based on internal Cotton Incorporated research, 2025.*

A NATURAL ADVANTAGE

Consumers continue to seek natural, easy care fabrics that perform. Mechanical stretch enhances cotton's comfort, movement, and durability while preserving its renewable and biodegradable benefits. It provides a natural solution for brands and retailers looking to elevate 100% cotton products with built-in flexibility and lasting comfort.

WHAT CONSUMERS ARE SAYING[5]

75% prefer clothing made from cotton or cotton blends.

67% say cotton clothing is the most comfortable.

81% say cotton is the most sustainable fiber option.

59% are willing to pay more for apparel made from natural fibers.

GLOBAL AVAILABILITY

Cotton Incorporated partners with suppliers around the world to implement this mechanical stretch construction within existing cotton supply chains. Technical guidance and marketing support are available for mills, brands, and retailers.

Contact your representative or visit CottonWorks.com to explore fabric examples, supplier lists, and implementation guidance.

Scan for Supplier List

Learn more at CottonWorks.com

5 *Cotton Incorporated's Global Lifestyle Monitor™ Survey 2025, (n = 13,026 consumers in 13 countries).*