

## LYOCELL

### WHAT IS LYOCELL?

Introduced in 1991, lyocell is the generic name for a regenerated cellulose fiber created by an organic solvent spinning process. Solvent spinning means dissolving and spinning the fiber without the formation of a derivative.

The closed-loop solvent spinning process used to manufacture lyocell, though more environmentally friendly, is more expensive than the processes typically used for rayon. This and other factors combine to make lyocell more costly than rayon and cotton. Lyocell, therefore, has been a niche fiber, originating in the apparel market and occasionally crossing over into interior upholstery. Blends with cotton, rayon and polyester are typical.

Although it is given a separate generic name, the Federal Trade Commission (FTC) classifies lyocell as a sub-category under “rayon.”



The fabric shown here is 53% Tencel®, 47% cotton. (Tencel is the trademark name for lyocell produced by NewCo.) Notice that Tencel is the more lustrous fiber and

occurs as both warp and filling yarns. In this fabric, cotton yarns are found only in the filling (weft) direction.

### FIBER PROPERTIES

Both rayon and lyocell are regenerated cellulose. Like rayon, lyocell offers a silk-like luster and soft hand. Both fibers can be produced in filament or staple forms

The difference in how rayon and lyocell are manufactured gives rise to unique physical characteristics. The primary advantage of lyocell over rayon is strength. Lyocell is the strongest cellulosic fiber and, though it loses some strength when wet, its wet strength is still higher than that of cotton – and much better than rayon. Lyocell fabrics will shrink when exposed to water, though significantly less than rayon.

### FIBRILLATION

One of the unique properties of lyocell yarns is their tendency to “fibrillate,” a process where abrasive action causes the formation of extremely tiny fibers (micro-fibrils) on the surface.



As suggested by the photo, the tendency to fibrillate can be controlled during manufacturing. (Tencel is the normal lyocell and Tencel A100 is the non-fibrillated product.)

Fibrillation results in a surface texture that is soft and fine-napped. These types of fabrics are more commonly used in apparel products.

## **CLEANABILITY**

What if the fiber type isn't known? Fortunately, it is not necessary to know how to differentiate lyocell from rayon in order to properly care for these fabrics. Problems are rare when the cardinal rule is followed: remember to carefully and thoroughly **pre-test** before cleaning.

Assuming careful testing, most lyocell fabrics are likely to be wet-cleanable with normal methods.

Since we have not seen the fiber in a pile construction, we cannot be sure how chenilles or velvets might react, so caution is urged in these cases. (We already know that rayon pile fabrics are very difficult.)

## **SPOT CLEANING**

Spot cleaning can be accomplished (after careful pre-testing) using both water-based cleaners such as pHnominal and dry cleaning solvents such as Kleen-Tec.

Strongly acidic chemicals such as rust removers should be thoroughly neutralized and rinsed in order to prevent long-term damage.

## **ON THE BRIGHT SIDE**

With proper care, lyocell fabrics can last for years. Routine maintenance should include vacuuming, as well as rotating and flipping cushions (where applicable).

The Fiber-Seal Fabric Care System can benefit lyocell fabrics by reducing absorbency, helping to resist permanent staining, and ultimately increasing the useful life of the fabric.

**ALWAYS TEST CHEMICALS AND/OR PROCEDURES FIRST IN AN INCONSPICUOUS AREA OF THE FABRIC.**