LYOCELL... Rayon's Fashionable Cousin

Lyocell is a relatively new fiber in the home furnishings market. Introduced in 1991 to the apparel market, branded lyocell fibers are more commonly known as Tencel® lyocell, as marketed by such companies as The Lenzing Group. For the home market, lyocell is used primarily in upholstery fabrics and is often blended with cotton, rayon and polyester.

Although it has been given a separate generic name, the Federal Trade Commission (FTC) classifies lyocell as a sub-category under “rayon.” However, this regenerated cellulose fiber was created by using a process known as “organic solvent spinning,” which is more environmentally friendly, but also much more expensive than the processes typically used in manufacturing regular rayon.

This and other factors combine to make lyocell more costly to produce than rayon and cotton. For that reason, lyocell has remained a niche player in the home furnishings market.

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 much better than rayon. Lyocell fabrics will shrink when exposed to water, though significantly less than rayon.

The main disadvantage of lyocell is its relatively low surface energy, which makes it difficult for dyes to bind to it. This is not to say it is impossible to dye, but the dyes required are more expensive, another factor contributing to its higher cost.

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. The tendency to fibrillate can be controlled during manufacturing. (Tencel, the normal lyocell, is on the left. On the right is Tencel A100, the non-fibrillated product.) Fibrillation results in a surface texture that is soft and fine-napped.
Cleanability
Cleaning and spotting lyocell fabrics can be a challenge. While dry cleaning may not cause ringing or shrinking problems, it is not particularly effective against waterborne spills, which are the largest cause for concern.

Testing any wet cleaning method is a must. While lyocell will fare much better than rayon in general testing, the fibrillated Tencel has some potential problems. Because there is a nap, water can create blotches or dark spots. Also, excessive rubbing or brushing on the non-fibrillated fabric could cause an unwanted nap.

Problems are rare when this cardinal rule is followed: Remember to carefully and thoroughly pre-test before cleaning.

Since we have not yet 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
Water-based spotting agents should be carefully tested, as mentioned previously.

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

We Can Help!
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.

With the latest in carpet and fabric protection chemistry and the most effective spot removal and cleaning products and procedures, your local Fiber-Seal Service Center is ready to help you design a maintenance plan that will keep your fabrics and floor coverings looking their best.

You can also connect with us on our social media networks!