



‘BLEEDING EDGE’ DESIGN CAN BE ‘LAUNDRY UNFRIENDLY’

Operators should test high-end custom sheets to ensure that they can handle washing

By Sam Garofalo

When high-thread count sheets first gained popularity at high-end hotels about a dozen years ago, some laundries discovered that the 250 thread-count (or higher) sheets would lose their tensile strength after only a few washings. Then they’d tear apart as they went on the spreader/feeder before ironing. Initially, this triggered a wave of panic, followed by finger-pointing among laundries, hotels, chemical vendors and manufacturers.

Nonetheless, as demand for high-end products grew with end users, the manufacturers continued to tout the aesthetic appeal of luxury products. At that point, high thread-count hotel sheets were off and running! While the industry as a whole has made progress since the early days of this phenomenon, challenges remain.

Elizabeth Easter, a professor and director of the Textile Testing Laboratory at the University of Kentucky, has isolated the problem as a manufacturing issue. The unfortunate reality is that a \$100 itch can become a \$100,000 heart attack very quickly! High thread-count fabrics remain a popular choice for the high-end hotels. And let’s be fair: Manufacturers have come a long way in providing durable high-thread count fabrics. They’ve done this by incorporating better yarns, blending in polyester and changing the twist and some other actions that seem to be working.

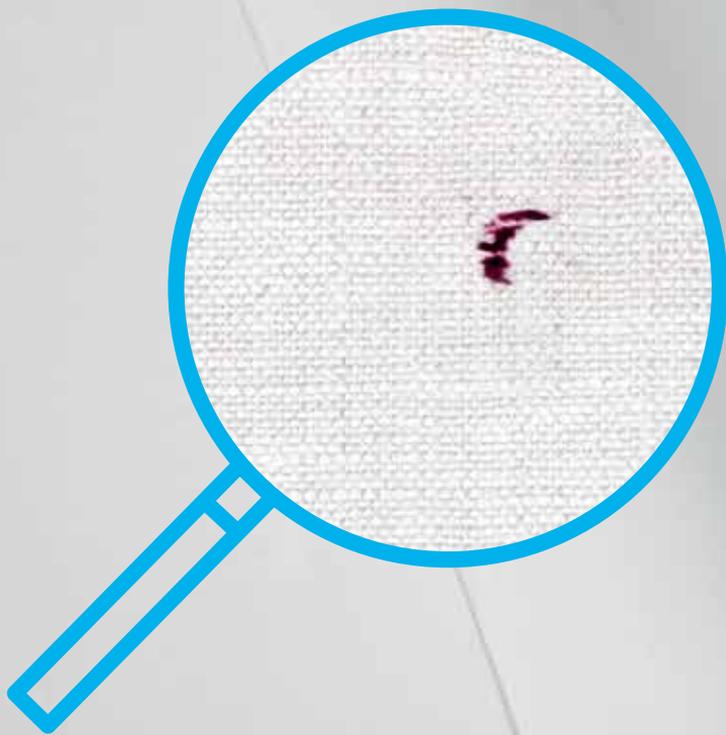
NEW CHALLENGE

So, fix one problem and soon another one will come along to take its place. Fast-forward to 2016. High-end Fifth Avenue fashion designers now are closely involved in bringing a new, more elegant décor to high-end hotel rooms. This includes sheeting, pillow cases, duvets, towelings and fabrics that are all subject to design coordination and other factors that can affect the laundering process. However, these “pretty” or “luxurious” fabrics often are problematic to process commercially.

In my experience, the designers or manufacturers ask a reputable chemical company to write a wash formula for the products. The chemical industry actually does a pretty good job. However, you’ll note that the chemical company logo is rarely on the instructions because other parties have heavily edited them and other parties have that liability! Why (and how) does this happen? Many times, designers and manufacturers will add after-market changes, such as ornamentation, silk screening, etc., thus increasing the odds of the product failing to retain its original properties!

The reality is that when you’re looking for “luxurious,” very little consideration is given to durability or processing issues. As launderers, we don’t necessarily think about the weave construction or tensile strength of new goods as *our problem*. We need to rethink this, because the new sheeting that’s now shipping will actually lack the tensile strength of a sheet that’s been washed five or 10 times! In other words, a sheet may fail the test initially, but pass it after it’s been commercially processed, thereby erasing the evidence. Ever had a hole in a sheet and the fabric all around it was strong? Why does this happen?

A new unprocessed sheet may fail the Industry Standard of 40 lbf (lbs. of force) and undergo microscopic damage during the first commercial washing. Heavy sizing or overuse of fabric softener may exacerbate this problem. You may not see a visible hole for as many as 10-50 washings. The reason is simple; during the initial washing process, the fabric “draws up” (i.e., “shrinks”) giving it elasticity which makes the fabric more resilient. This type of damage happens all the time, especially with hydrobursts in tunnel system presses. Remember, a sheet tested for tensile strength after 10 washings will probably pass the minimum standard, leaving everyone scratching their heads. The washing instructions provided are nebulous and suggest that they be washed in 100°F water at a neutral pH using no oxidizers or softeners ... in other words, in a home washer!



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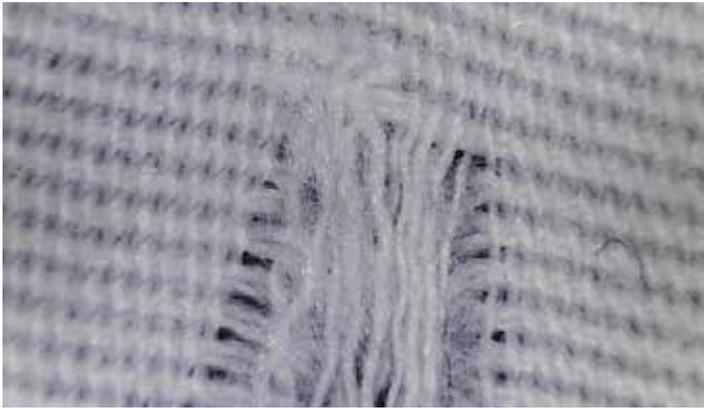


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Satin Weave

In a true satin weave there is only one interlacing for each warp yarn. No two interlacings ever touch or are adjacent to each other. Satin weaves produce a very even surface because of the many warp floats.

Types of fabrics made with a satin weave

- Crepe back satin
- Sateen

How its done

Refer to the picture on the right. You do not have to Complete a sample for the satin

ABOVE: (l/r) Here is a microscopic image of a sheet showing damaged fibers; a description of how satin weave fabrics are constructed.

Another favorite is the satin weave! Feels like silk; wears like a paper towel A 4 x 1 weave that has four “floaters” (i.e., vertical yarns passing over horizontal yarns) that will catch everything from toenails to a nick in a roller board wheel. While they tend to snag, since they’re not tightly anchored to the fabric, designers like them because they present a smoother surface. Of course, if something goes wrong, it’s the laundry’s fault!

Last summer the state of North Carolina invited me to attend a symposium on Fabric Design and Manufacturing. Short version, the fashion industry’s demands were impossible for the manufacturers to develop. There were over 100 representatives from the fashion and manufacturing industries from around the world and one from the laundry side! I’m not kidding when I tell you that war broke out between the manufacturers and the design teams. One woman designer left in tears! We in the laundry business will be collateral damage in this war, if we don’t take steps to protect ourselves!

BEST DEFENSE—VERIFY LAUNDERABILITY

Enough gloom and doom! What can we do? I strongly suggest that all laundries notify their customers that all new goods will be tested prior to going into service! Three sets of the new goods are

necessary to do it correctly! One set will be wrapped in poly-wrap and saved at the laundry to be compared, if there is a reorder issue. One set should be wrapped in plastic and saved at the hotel; one set should be sent to an independent laboratory for testing.

According to Easter of the Textile Testing Lab, all fabric should be pretested for:

- Grab test; all new fabric should be tested before washing
- Grab test, the same product washed five times.
- Fiber content
- Thread count
- Construction or weave composition.

My firm, Technical Consulting Associates Lab Services, examines and reports on the causation of approximately 250-300 damaged linen products annually. Most of the damage we see is a one-time event that can be traced back to a chemical or mechanical issue. However, manufacturing issues can be catastrophic. So who should pay the \$500-plus for the testing? Historically, the laundry ultimately will take the blame, which will be time-consuming, costly and you could lose the customer. You can try to get the property to pay, but who really cares? If you rented a \$250,000 car would you spend an extra \$500 for an insurance policy that would potentially pay for any damage?!

CASE STUDY

A client called me regarding some suspect linen from a new customer. By the description, care label, etc., several red flags popped up. I suggested that they get samples sent to Easter’s Textile Testing Lab immediately. My client warned the property that there were some issues with the goods, but the hotel put them into service anyway. Easter’s report came back, citing a serious manufacturing issue. A copy of the lab report was immediately given to hotel. After three months, the linen started to develop small breaks in the yarns. The hotel called the laundry and told them that they were ruining their linen. *No! I’m not kidding you!*

The evidence was presented to the hotel in a more official way and the blame shifted to the manufacturer—where it belonged. The hotel sought out another supplier and the fabric was pretested before it was put into service. Case closed!

In the end, when disaster strikes, all we want is the truth so that we can get back to business! Any truth is a process of elimination. It has to start at the beginning, which is the fibers that make up the yarn. **TS**

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