



THE THREAD

Unraveling the Mysteries of Fibers, Fabrics and Floorcoverings

ABRASION RESISTANCE... A Major Factor In User Satisfaction

One of the most essential performance characteristics of an upholstery fabric is abrasion resistance... the ability of the material to withstand the rubbing or abrasion it receives in day-to-day use. Many factors are directly related to abrasion resistance, including: type of yarn(s), fabric construction, construction of the furniture, and degree and type of use.

Snagging

Lack of abrasion resistance can show up in several different ways. One common form of this damage is "snagging", evidenced by a yarn that has been caught or pulled above the surface of the fabric. The snag can be either a loop of yarn or broken yarn ends.

It is always best to take care of snags as soon as possible in order to prevent magnification of the damage through further pulling. The construction of the fabric generally dictates the correction method. If the snag is in the form of a loop, it can sometimes be pushed to the opposite side of the cloth. "Darning" broken yarns or carefully clipping them off are also acceptable and successful in certain situations.

Fuzzing

"Fuzzing" is a common manifestation of abrasion damage. This condition results from fibers which work their way out of the fabric, causing an exaggeratedly "hairy" surface. In some fabrics, this condition can continue to an even more unsightly condition called "pilling."

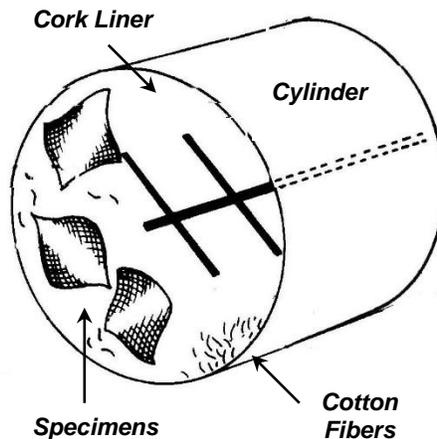


Diagram of a Random Tumble Pilling Tester. The propeller device rotates at a high speed, causing the specimens to rub against the cork liner. Both regular pills and lint pills (from the cotton fibers) can result.

Pilling

Pilling is the formation of groups of short or broken fibers on the surface of a fabric, which are tangled together in the

shape of a tiny ball. Pilling may be more or less noticeable depending on the presence of other fibers (lint), and the degree of color contrast. The condition may be accompanied by such other phenomena as loss of color, development of fuzz or color change.

Short staple fiber spun yarns are more prone to pilling than long staple spun yarns because there are more fiber ends at the surface. For the same reason, low twist yarns pill more readily than high twist yarns.

Certain fibers tend to pill more than others. Strong synthetic fibers, such as nylon and polyester, if they are in a construction that is prone to pilling, will create pills that are not easily broken from the cloth during use, thus causing a more severe and unsightly problem.

Testing Methods

The Joint Industry Fabric Standards Committee, in its "Woven & Knit Residential Upholstery Fabric Standards & Guidelines" has reaffirmed the historic lack of accepted testing methods for pilling. Their document states: "There is no acceptable test method for

Superior Service, Smart Solutions

Fiber-Seal Systems • Dallas • Texas • 214.333.9400 • www.FiberSeal.com

pillling of woven and knit upholstery fabrics that is suitable for direct comparison to actual use.”

Although there is much disagreement on the subject of pillling tests, there are several methods currently in use. “Random Tumble Pillling Tester Method (ASTM D3512-96)” and “Brush Pillling Tester Method (ASTM D3511-02)” are two of the more common tests.

The Random Tumble Method is used to test a fabric’s tendency toward both regular and lint pillling. Fabrics are tumbled in a cylindrical test chamber lined with a mildly abrasive material.

For this test, small amounts of cotton fiber (to simulate lint) are added to the test chamber with the specimens. The random rubbing motion produces pills on the fabric, which are then evaluated by comparison with visual standards. These standards may be either actual fabrics or (more commonly) photographs of fabrics showing a range of pillling resistance.

The observed pillling is reported on an arbitrary scale ranging from No. 5 (no pillling) to No. 1 (severe pillling).

The Brush Pillling Method is used to indicate only regular pillling (not lint pillling). The fabric is first abraded with a nylon bristle brush, forming fuzz on the fabric surface. Next, two of these abraded specimens are rubbed together to try to form free fiber ends into pills. The same visual evaluation method used for Random Tumble is also used for Brush Pillling.

Again, there is no generally accepted test method for pillling resistance of upholstery fabrics.

The tests mentioned here are, like other laboratory tests, not always able to reproduce results which parallel in-use experience.

Trust The Experts

Vacuuming, rotating and flipping cushions and damp dusting are all tools that can

effectively add life to interior fabrics.

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

Need Help With Fabric Protection Or Upholstery Cleaning?

Your local Fiber-Seal Service Center is ready to help and just a click away.



<http://fiberseal.com/locations/>