

# Why Cotton Fiber Strength Matters for Your Product

Cotton fiber strength is obviously important when it comes to choosing cotton for your next product. First, you have to determine if cotton, [with all of its benefits](#), is in fact the fiber that will work best for your application. If it is, then you have to determine how strong the cotton needs to be. For example, consider apparel. A favorite t-shirt and jeans are both made from cotton, but they have distinctly different strength levels. The cotton itself plays a factor in this, as well as how it's processed.

## First, A Look At How Cotton Strength Is Measured

You were recently introduced to the micronaire measurement—which is for cotton fineness and maturity—and today we'll discuss the tex. This is how cotton strength is measured, with one tex being the equivalent of the weight in grams to 1,000 meters of fiber. To clarify, that ultimately means that cotton strength is determined by how much force (in grams) is needed to break a one-tex fiber bundle. Typically after fiber length is measured, fiber strength is tested next. The degree of force needed for fiber breakage leads to the following tex ratings [per Cotton Incorporated](#):

- 32 and Above: Very Strong
- 30-32: Strong
- 26-29: Base
- 21-25: Weak
- 20 and Below: Very Weak

Initially, cotton strength is important because it makes processing easier; breakage is obviously undesired. Different

cotton varieties offer different strengths. But while cotton is inherently strong due to its interlinking layers of tiny fibrils that make up the fiber cell, poor weather conditions and nutrient deficiency during growth can create discrepancies. This means once it's plucked from the field, the [fiber strength](#) is immediately important for processing, as well as the final product application.

The fiber strength of all the bales cotton grown in the US are tested by the USDA and the strength data provided to the fiber purchaser. The purification process does not change the fiber strength.

## **Taken for Granted: Cotton's Wet Strength**

Of course, many product developers are probably more interested in how cotton strength affects the final product instead of how it affects processing. While cotton's softness and absorbency typically receive the headlines, cotton's secret weapon is its wet strength, which gives it a huge advantage over its synthetic brethren. Cotton fibers get stronger when wet, viscose rayon loses strength when wet and petroleum made synthetic fibers are not absorbent, so their strength unchanged when wet.

Cotton wipes are a perfect illustration of this. That's a product that can't shred or tear during use, whether you're wiping down a counter, or using a [baby wipe](#). Cotton wipes have [greater tensile strength](#) than their rayon or pulp counterparts. This wet strength is often taken for granted; in most uses, a cotton wipe will never be used dry. It will be used in conjunction with water by the consumer, or will come pre-saturated with a cleaner or moisturizer.

# Thinking Beyond the Wet Wipe

Though wipes present an ideal example of how wet strength is critical for a consumer product, that's just the first on a long list. Consider the products that many consumers use on a daily basis: diapers, tampons, and feminine pads. While that softness and absorbency are still prerequisites, without the proper strength these products would be ineffective. Cotton's usage within a wide range of health care applications is a further testament to this trait.

## The Right Manufacturing Partner Will Provide the Right Strength

From processing to final product, cotton strength should certainly be considered as a key asset for product developers. A good manufacturer will typically take the processing element out of your hands; they'll partner with you to provide the ideal cotton strength for your [specific application](#). From there, you can further customize with other finishes for the right combination of strength and features that suit your purpose.

### Be a Game-Changer in Your Industry!

Let's take a trip throughout history to learn about 8 cotton innovations that have made a significant impact. You'll discover how those lessons can help enhance your next innovation.

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