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Strength or softness?  
Don't compromise. Maximize<sup>®</sup>.

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## All strength is not created equal.

Strength is a big part of meeting both your demands and those of your customer. It can be a balance between operations efficiency, avoiding end use product failure and meeting hand feel in expectations.

Typically, when it comes to generating strength, the tissue makers have borrowed from the flat sheet industry and resorted to refining and dry strength resins.

These approaches generate tensile, but they come with negatives. Refining increases energy consumption and creates fines. These fines lead to reduced bulk and absorbency and create dust. Operations are impacted with higher drying costs and increased potential for dust fires. In order to avoid going further down the negative refining spiral, dry strength resin is often used. But DSR hurts quality with increased stiffness, and it adds complexity for your operators in managing the wet end.

The negatives associated with these strength-generating approaches make a tissue maker less viable by increasing costs and reducing quality potential.

### **That's why we developed Maximize.**

Buckman's Maximize is enzymatic fiber modification technology that allows you to get maximum fibrillation at minimum refining intensity. You get efficient tensile generation without the fines. Operations benefit from improved reduced energy and drying costs. Quality benefits from preserved bulk-to-basis weight, hand feel and absorbency. Both stakeholders benefit from reduced dust.

Our newest Maximize products are 3rd generation enzyme technology, based on patented stability and potentiation approaches to give you better cost performance than other offerings. Whether you want to lower your operational costs, increase tissue quality, or both, fiber modification enzyme technology from Buckman can help you reach your goals and be more competitive.

# Find the perfect balance of strength, softness and cost.

Products are engineered to treat specific fiber types, opening up tissue fibers for optimal performance so less refining energy is required to achieve the required specifications. That opens up all sorts of possibilities in how you make tissue. You can:

## Improve tissue quality

Maximize technology can help increase bulk-to-basis weight and tensile strength. By minimizing refining you can gain absorbency, save energy and reduce dust.

## Reduce fiber costs

Maximize technology can open more fiber stream options. Tissue makers use Maximize to maintain softness while increasing recycled fiber content in their grade mix. Others leverage Maximize to reduce or eliminate softwood and move to a 100% eucalyptus base sheet.

## Save energy and other costs

Maximize technology from Buckman significantly reduces the refining energy required and can eliminate the need for dry strength resins. Some tissue customers have reduced refining by 70 kWh/ton.

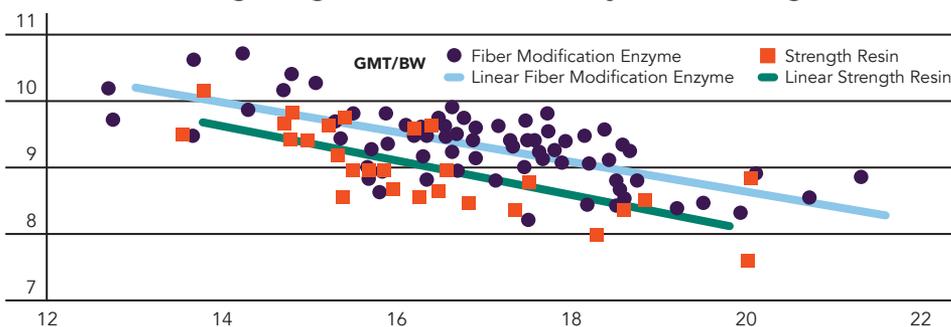
## Improve your process

- Reduce Yankee drying load
- Eliminate dry strength usage
- Reduce fines loading
- Improve bulk-to-basis weight
- Reduce dusting tendency

## Learn more

Get the flexibility you need to control quality, cost and a bigger share of the market. Find out more about Buckman's Maximize technology. Contact your local Buckman representative or visit us online at [buckman.com](http://buckman.com).

## Bulk vs. Breaking Length: Buckman Maximize vs. Strength Resin



Mill A has completely replaced its dry strength resin with Buckman Maximize, reducing refining needs and increasing strength-to-basis weight by an average of 3.5%. As a result, it has reduced basis weight, saving money in fiber costs.

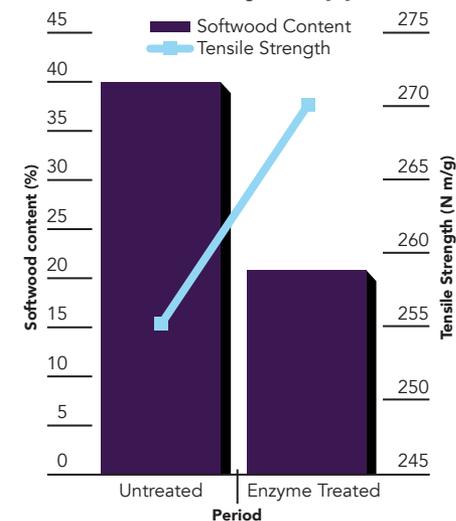
## Case studies

A tissue/towel mill, which had formerly used 100% virgin fiber mixes and 100 kWh/ton of refiner energy, uses Buckman Maximize technology to eliminate starch usage, reduce softwood usage from 60% of the sheet to 50%, and reduce refining energy by 20 kWh/ton. As a result, the mill has realized a better bulk-to-basis weight ratio, better first pass retention, and improved runnability.

With Maximize technology a mill has moved from using 40% virgin softwood to 100% recycled fiber — a tremendous cost savings.

One of our clients has been able to eliminate starch usage (from 5.0 kg/ton to zero) and reduce refining energy by 15 kWh/ton, while maintaining strength targets.

## Buckman Maximize Application



Mill B has reduced their softwood content by 50%. At the same time, the tensile strength has increased by more than 5%. The resulting fiber cost savings has made the mill more cost competitive in the market.



Scan the QR code to see how this product works on fiber.

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