



ON THE  
MACHINE

STABILITY &  
STRENGTH

ON THE  
BOTTOM  
LINE

## Reinforce productivity management from Buckman

**Put the full force of Reinforce to work for you.** In this competitive world of packaging papers, it's not enough to make a stronger paper; you've got to maintain a stronger operation too. Reinforce them both with the comprehensive Reinforce productivity management program from Buckman.

Reinforce is more than strength and drainage aids. It's a complete system that includes advanced technologies that enable wet end chemistries to work better. So your mill can enhance the quality of your board while also simplifying logistics, saving energy and reducing your carbon footprint.

## A holistic approach to strength

Recycled packaging paper mills face two big challenges: declining recycled fiber quality and a reduction in fresh water usage. This makes it challenging to meet strength targets because your system is more contaminated, and your chemistries become less effective. That's why Buckman's Reinforce program incorporates a three-pronged approach to strength management.

### Busan® System Stabilization

The higher levels of starch and calcium carbonate filler coming in with recycled fiber today are quickly degraded resulting in poor strength, reduced efficiency of wet end additives, fiber damage and increased potential for scaling. Reinforce stabilization technology protects the integrity of all the valuable components in your raw materials, stabilizing the system chemistry and allowing wet

end additives, including dry strength, to perform better and at a lower cost.

### Maximize® Fiber Modification

Buckman's award-winning Maximize enzymatic technology uses the power of specialized enzymes to improve fibrillation for fiber bonding without compromising fiber integrity. Maximize saves energy while enhancing drainage and strength.

### Precision® Wet End Chemistries

With Precision, the Reinforce system brings new innovations to your packaging paper mill. The Precision product line is designed to provide improved drainage, strength and formation while providing stable retention and wet end performance. The Precision product line is customized to suit your system chemistry helping your mill to hit quality and productivity targets.

## It's all part of the package: strength, productivity and sustainability

Even in the face of your biggest challenges, Reinforce can improve productivity, product quality and yield. The impact on your operation is to reduce the total cost and help to improve your environmental profile.

### Increase strength.

Designed for packaging paper systems, Reinforce can help you significantly improve the properties of your packaging paper, including:

- SCT
- Ring crush
- Ply-bond
- Concora
- Burst
- Tensile

### Increase efficiency and quality.

Rely on Reinforce for:

- Improved drainage and dewatering
- New opportunities for grammage optimization
- Faster machine speed

- Enhanced product quality
- Increased grade capacity
- Reduced usage of premium fibers, starch, dry strength, defoamer, sizing, dye and other chemistries

### Use less energy and fewer resources.

Reinforce technology offers highly active products. So you get improved logistics and a measurable return on environment.

- Smaller storage tanks, smaller feed systems, fewer truck deliveries
- Higher recycled fiber utilization
- Reduced steam and energy use
- Longer shelf life
- VOC-free
- Reduction in COD load
- Effluent stability

## SUCCESS STORIES:

### Achieving impressive compressive strength

**Challenge:** A mill making 100% recycled linerboard couldn't meet SCT specification with traditional chemical treatments, even at lower production rates and with elevated dosage.

**Solution:** They turned to a customized Reinforce

program from Buckman which prescribed both Precision and Maximize products.

**Results:** Strength (SCT) specifications were quickly met and the production rate was increased by 4% providing significant reduction in operating costs.

### Gaining speed while reducing refiner loading

**Challenge:** A mill running recycled linerboard wanted to increase its production rate.

**Solution:** The machine was switched from a complex program to Buckman's Reinforce productivity management system.

**Results:** The machine's production rate increased by an average of 7% while all required strength tests were met. In addition, the mill was able to reduce refiner loading and reduce effluent losses, resulting in financial savings as well as a reduction in CO<sub>2</sub> emissions.

### Protecting raw materials from degradation

**Challenge:** A mill making high-quality 2-ply OCC liner and medium grades was experiencing degradation of OCC feedstock, which contained high levels of starch and calcium fillers. This reduced the system pH while increasing system contamination which deactivated wet end chemicals.

**Solution:** Buckman introduced its stabilization chemistry which addressed the root cause of the problem that most impacts this degradation of raw materials. The result was a lower overall dosage of dry

strength while increasing system wet end stability.

#### Results:

- Better control of conductivity, pH, dissolved calcium
- Elimination of carbamate chemistry for additional control
- Stabilized strength and paper machine speed
- 7.6% reduction in COD loading
- Reduced chemistry costs

### Reducing water contamination. Improving chemistry effectiveness. Increasing yield.

**Challenge:** A mill producing corrugated medium was losing 1100 kg/day of CaCO<sub>3</sub> equivalent to the effluent.

**Solution:** Buckman applied Reinforce stabilization chemistry. The improvements were dramatic.

#### Results:

- 56% reduction in system hardness and CaCO<sub>3</sub> loss
- 39% reduction in sizing usage
- 38% reduction in wet end starch usage
- 73% reduction in wet end defoamer usage
- 49% reduction in dry strength usage
- 52% reduction in PAC usage
- 12.5% production increase

## Learn more.

Don't let the challenges of today's recycled fiber compromise board quality or production speed. Reinforce your entire packaging operation with Buckman's Reinforce productivity management system. Contact your Buckman representative or visit [buckman.com](http://buckman.com) for more information.



**Buckman**<sup>TM</sup>  
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