

Hercobond™ Plus 555

Dry Strength Technology for Paperboard Packaging



- Provides a direct and linear strength response
- Enables basis weight reduction
- Increases productivity and asset efficiency
- Effective across a wide range of conditions
- Lowers production costs

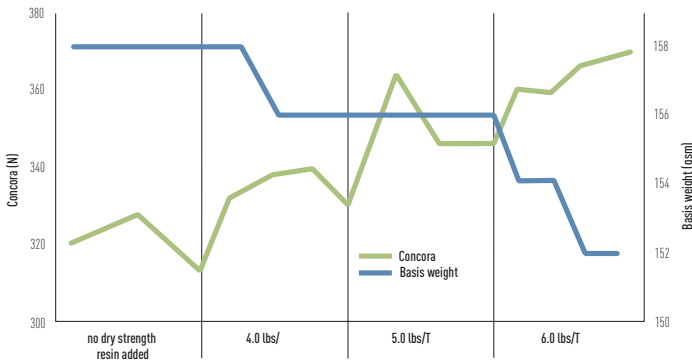
Delivers Superior Packaging Performance

Hercobond™ Plus 555 is a proprietary polymer composition which builds compressional and tensile strength properties in finished paperboard while reducing basis weight. In fact, we believe that it is the most effective chemical tool for basis weight reduction and dry strength improvement available on the market today. This new technology helps manufacturers meet

an ever growing demand in the market— developing lighter packaging without compromising performance. Hercobond Plus has a proven track record as a highly effective strength aid in a variety of furnishes, including 100% recycled, virgin kraft, and high yield corrugated medium pulps.

Figure 1. Improved Strength with Reduced Basis Weight

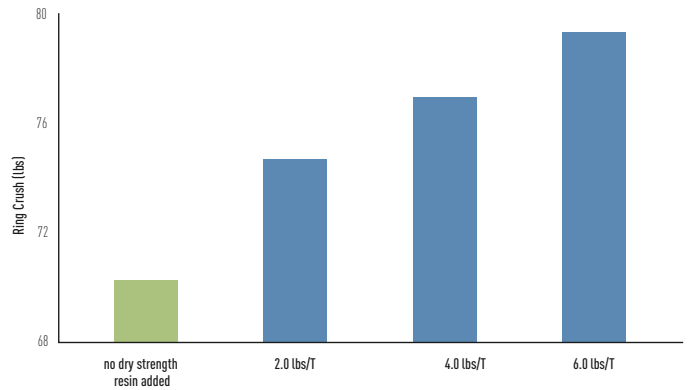
150 gram High Performance Medium
60% Carbonate Pulp / 40% Recycle
Resin: Hercobond Plus 555



- 8-10% improvement in Concora
- 4-6 gram reduction in basis weight

Figure 2. Improved Strength at Constant Basis Weight

35 lb High Performance Recycled Liner
90% OCC / 10% MOW
Resin: Hercobond Plus 555



- >10% improvement in ring crush
- Higher performance plateau than conventional dry strength products

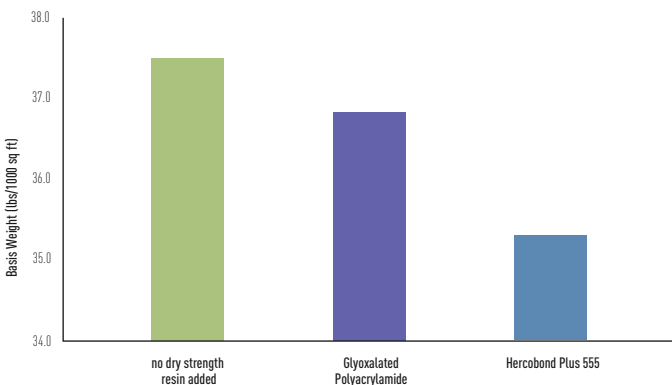
Improves Machine Performance and Profitability

By improving strength and dewatering performance, Hercobond Plus 555 can increase machine production levels and improve bottom line performance. Using data from ongoing commercial applications, the graphs below show the dramatic impact of Hercobond Plus applications on basis weight and strength tests

in the production of high performance liner grades. Considering that basis weight reductions of greater than 4% are typical for Hercobond Plus applications, annual production from a 225,000 TPY machine can be increased by over 500 million square feet, while maintaining constant fiber usage.

Figure 3. Basis Weight Reduction >4% vs Competitive

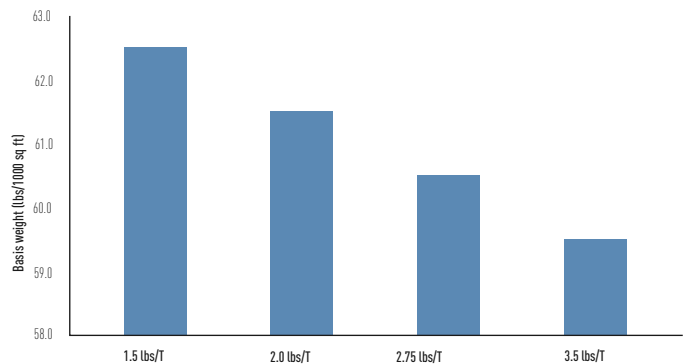
Dry Strength Resin
35 lb High Performance Recycled Liner
90% OCC / 10% MOW



- Twice the basis weight reduction compared to competitive technologies
- Basis weight reductions seen along with strength improvements

Figure 4. Dose Level Impact on Basis Weight Reduction

62 HPL - Virgin Kraft Liner
80% Softwood Kraft / 20% OCC
Resin: Hercobond Plus 555



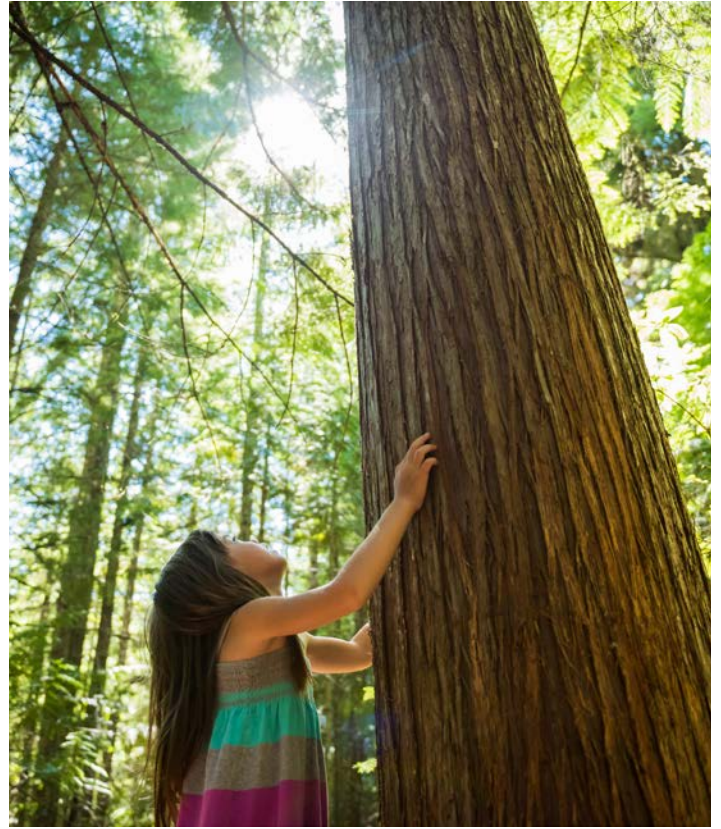
- 1-3 lb reduction in basis weight
- Largest basis weight reduction seen in mill

Promotes Industry Sustainability

Hercobond™ Plus provides a sustainable dry strength solution to the packaging industry by helping to reduce fiber consumption and decrease chemical handling and non value-added freight costs. Hercobond Plus is the product of a proprietary process, operated at the mill site, which greatly enhances paperboard dry strength and paper process dewatering. Commercial applications of this innovative technology have typically resulted in linerboard basis weight reductions of 4% or more, without compromising board strength or recyclability. In conjunction with exceptional dry strength performance, on-site polymer activation provides the following additional sustainability advantages when compared to conventional synthetic dry strength resins:

- longer shelf life with less waste
- 20% reduced resin consumption
- 60% reduced freight cost and delivery frequency

To evaluate the impact of basis weight reduction with Hercobond Plus 555 on your mills environmental performance go to www.PaperCalculator.org.



Reliable, On-Site Generation of Hercobond™ Plus 555

Features

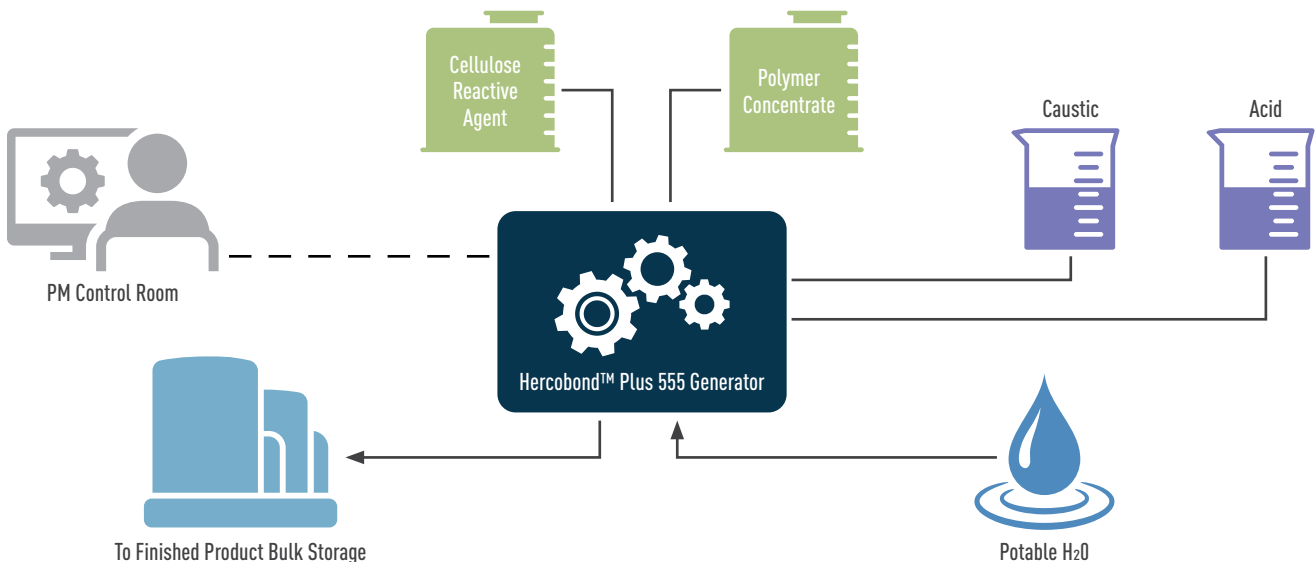
- Highly reliable, fully automated on-site equipment
- PLC/PC control with remote data logging capabilities
- Each unit can produce a maximum of 330,000 active pounds of Hercobond Plus 555 daily
- UL/CSA/CUL listed

Services

- Electrical: 380/460/600 VAC, 50/60 Hz, 60 amp, 3 phase
- Water: 80 psig (0.38 kPa) at 250 gpm (945 lpm) minimum. Filtered to 841 microns
- Air: 120 psig (827 kPa) at 50 scfm (84 m3/h)

Weight & Dimensions

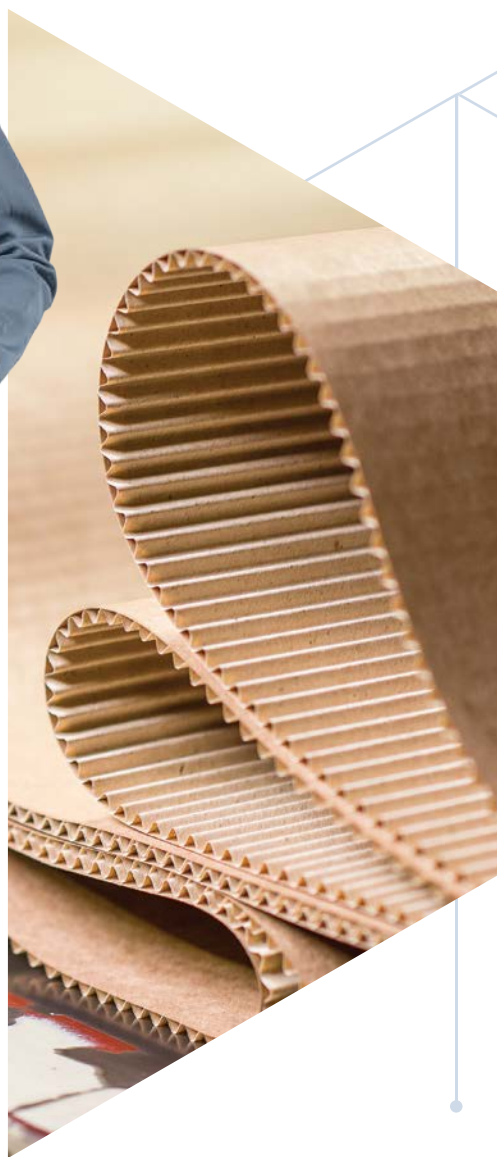
- Mix Tank Skid: 89" (226 cm) length x 89" (226 cm) width x 144" (365 cm) height. Weight: 2000 lbs (906 kg)
- Generator Skid: 86" (218 cm) x 60" (153 cm) width x 89" (226 cm) height. Weight: 2500 lbs (1134 kg)
- Acid/Caustic Totes: 60" (152 cm) length x 60" (152 cm) width x 60" (152 cm) height. Weight: 2200 lbs (996 kg)
- Raw Material Tank: 6000 gallons (23 m3)
- Finish Product Storage Tank: Minimum 10,000 gallons (38 m3)
- Equipment location: preferably a clean, dry environment





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