

Metrix™ Horizon delivers strength and productivity for North American recycled cartonboard producer

CASE STUDY

▶ BACKGROUND

A high strength cartonboard producer was seeking to improve productivity of their high-performance tube and core grades while optimizing their manufacturing processes. The basis weight operational range of the machine was 88-105 lbs. To ensure they stayed within strength specifications, the machine had to decrease speed. The strength specifications for the high strength grades were ring crush and ply bond.

This challenge prompted them to explore innovative technologies that could not only meet their performance goals but also align with their commitment to sustainability.

▶ SITUATION

Metrix Horizon is an innovative solution that allows you to truly differentiate your product and give your customers what they need to help achieve their sustainability goals and improve costs: stronger, lighter paper packaging.

Nalco Water's new innovative strength program provided improved key strength quality metrics of the URB tube and core product and unlocked significant speed and production rate increases. The improved strength allowed for a reduction in refining and provided a significant impact to dewatering and productivity. The increased strength also allowed for the machine to take advantage of additional production rate without suffering strength loss and subsequent quality rejects, allowing for higher sustained production rates at overall lower cost on raw materials.



ANNUAL SAVINGS



PRODUCTIVITY

9.1% increase in speed



RAW MATERIAL OPTIMIZATION

\$1.5 million

incumbent strength additive reduction



ENERGY

13.5%

refining energy reduction



GREENHOUSE GASES

330 metric tonnes CO₂



TOTAL VALUE DELIVERED

\$2.4 million

▶ RESULTS

- 9.1% increase in speed due to higher ring crush and ply bond
- 13.5% decrease in refining energy (HPD/T)
- Increased strength at lower refining levels allowed for significant production increases

MACHINE SPEED (fpm)

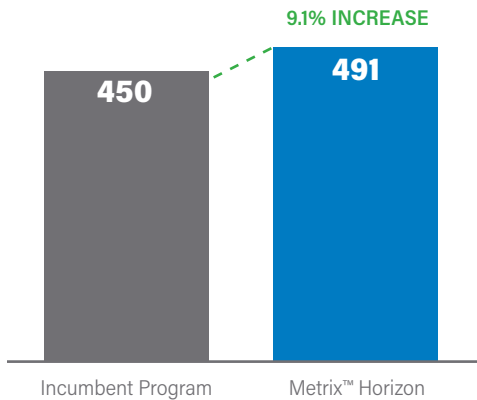


FIGURE 1: Productivity increase (fpm) comparison of incumbent program and Metrix Horizon

REFINING HPD/T

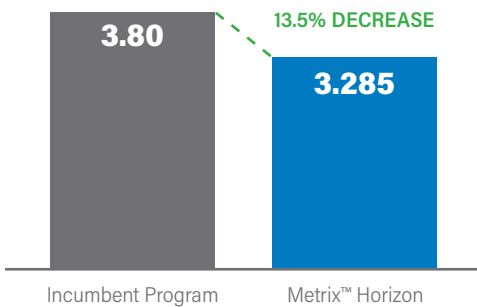


FIGURE 2: Refining HPD/T comparison of incumbent program and Metrix Horizon

▶ CONCLUSION

The implementation of the Metrix™ Horizon solution delivered significant ply bond and ring crush strength as compared to historical levels that created productivity and financial improvements, energy savings and greenhouse gas (GHG) reductions. The new operating window provided more flexibility to achieve higher strength targets and new grade potential for future market penetration resulting in a total value of \$2.4M to the customer.



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