

Ultis™ 63888 Dry² Strength Technology Provides \$912,000/yr. Increased Profit

SITUATION

A recycle paper mill in Latin America, making 100% recycled corrugated medium and liner on a two-ply paper machine with Manchester formers, needed to increase production while maintaining strength. The standard deviation of the strength tests was high, and due to this strength variability, the mill was reluctant to increase the machine speed and risk making off spec production.

SOLUTION

To increase production and reduce paper quality variability, Ultis 63888 Dry² Strength Technology was proposed and evaluated. Ultis utilizes a dry format chemical additive to improve strength; the optimum feed strategy providing synergy with the retention, drainage and sizing programs are shown in Figure 1.

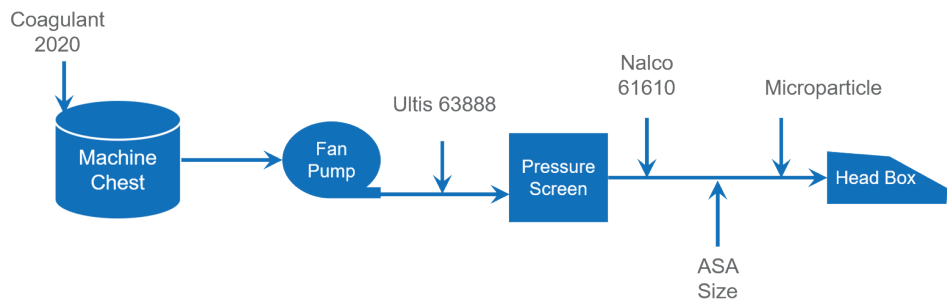


Fig 1: Schematic of the Paper Mill stock system

| ENVIRONMENTAL INDICATORS | eROI SM | ECONOMIC RESULTS |
|---------------------------|--------------------|------------------|
| Increased production 6% | PRODUCTIVITY | \$720,000/yr |
| 10% chemical cost savings | COSTS | \$192,000/yr |

eROI is our exponential value: the combined outcomes of improved performance, operational efficiency and sustainable impact delivered through our services and programs.

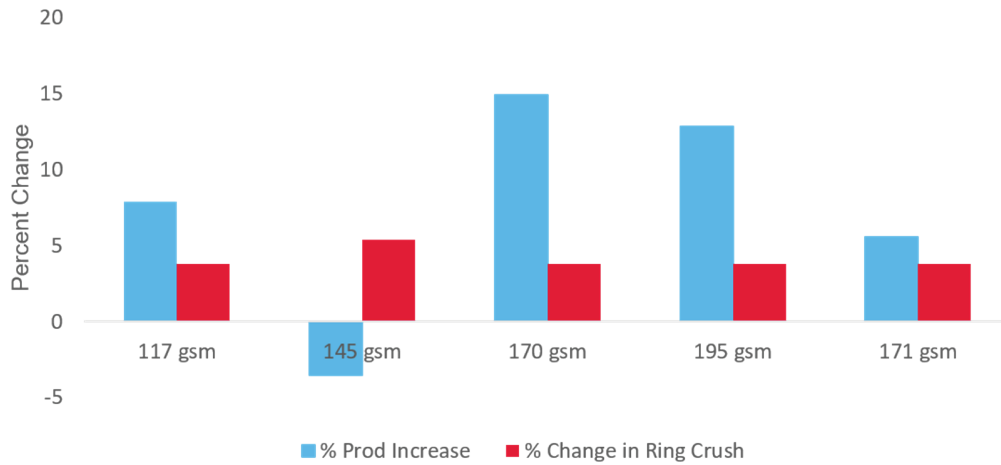


Fig 2: Ultis 63888 impact on productivity and Ring Crush vs. the previous three-month averages

The addition of Ultis, resulted in a 6% increase in the overall production amounting to \$712,000/yr. Figure 2 details the productivity gains with Ultis 63888 broken out by grade as compared to the previous three months. The mill was able to increase production on nearly every grade and where the production was not increased, allowed the mill to significantly increase their Ring Crush strength test. The addition of the Ultis program enabled optimization of the retention program, starch and strength additives resulting in an annual savings of \$192,000/yr.

CONCLUSION

Nalco Water Ultis 63888, has helped improve the sheet strength, reduce test variability and allowed the mill to significantly increase productivity. This improvement in productivity provided \$912,000/yr. increased profit to the mill.

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