



NALSIZE™ TIGER

High Performance ASA

Improved Sizing Efficiency in Paper and Paperboard

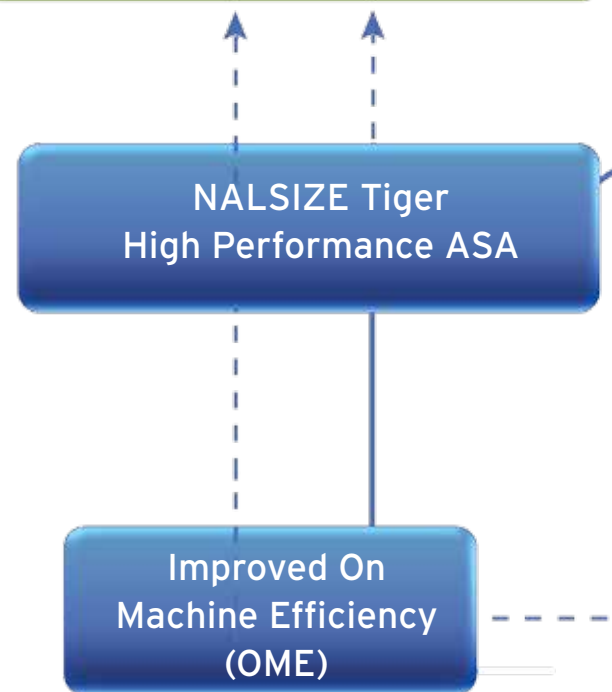
NALCO Water
An Ecolab Company

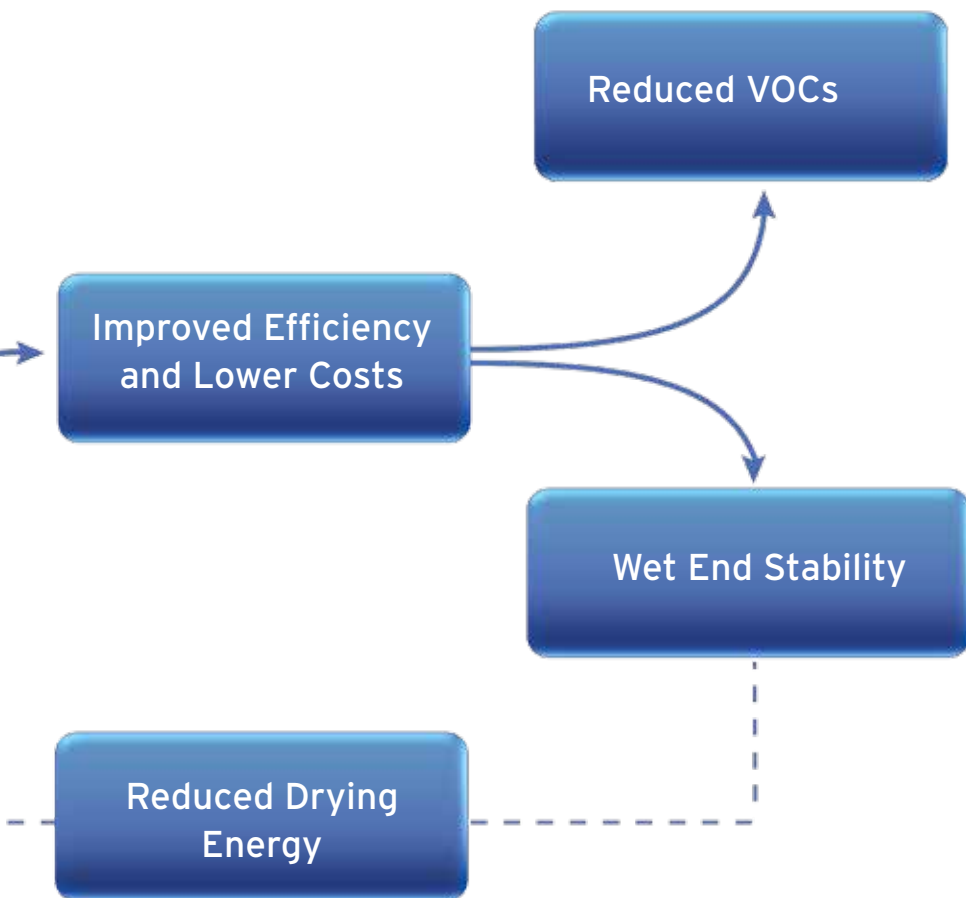
NALSIZE TIGER High Performance

NALSIZE Tiger High Performance ASA technology

delivers stable, controllable, on-machine sizing. This unique patented technology reduces chemical requirements through improved sizing efficiency. It also increases water removal resulting in increased paper machine speed and reduced energy use for higher production. When combined with Nalco Water's retention, drainage and formation applications, it also presents an opportunity to reduce basis weight from improved fiber savings and strength.

- ▲ Cost effective sizing
- ▲ Improved machine efficiency





Customer Benefits:

- ▲ Improved sizing efficiency and paper machine operational efficiency.
- ▲ Reduced sizing cost per ton of paper and paperboard produced.
- ▲ Improved water removal to increase paper machine speed for greater production.
- ▲ May reduce the amount of drying energy [i.e. steam demand] needed at fixed production rate.
- ▲ Potential strength improvement for reduction of basis weight.
- ▲ Improved system cleanliness and housekeeping.
- ▲ Improved wet end stability with consistent sizing response off reel.
- ▲ Reduced VOC content. FDA and BfR approved



Case History



Kraft White top Linerboard Mill saves \$325,000 in annual costs since converting to new NALSIZE Tiger ASA technology from sizing efficiency gains.

A Southeast Asian Paperboard Mill producing Kraft White top Linerboard used a traditional NALSIZE ASA program to meet customer HST and COBB specs for printability and holdout. Nalco Water introduced the newest innovation in sizing, NALSIZE Tiger ASA to the top and bottom ply of this 1600 TPD 3-ply paper machine and successfully converted them over to the new program. Since the change, the machine has realized an improvement in efficiency from a more stable wet end and a significant reduction in ASA usage. Net savings to this mill has been **\$325,000 per year or about 22% in annual spend on the ASA application.**

Case History



NALSIZE Tiger ASA technology provides significant sizing improvement in Recycle Linerboard Mill for \$400,000 savings.

A North American Paperboard Mill producing 100% Recycled Linerboard and Medium needed to improve upon their current sizing program to address high ASA size usage, high program cost, and plugging of feed lines to the paper machine. Nalco Water took over the program and converted it to NALSIZE Tiger ASA after proving our sizing capabilities on qualification trials. The results of establishing this new technology on this 700 TPD 2 ply paper machine met all COBB specifications while using **28% less ASA size**. The program also provided additional drying capability allowing the mill to improve mill production rates and realize a **\$425,000** annual savings.

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