

CHIP THICKNESS UNIFORMITY

(VSF)

CLIENT: Georgia-Pacific Corporation
LOCATION: Naheola, Alabama

The scope of this project was to increase the mill's screening capacity. A normal solution to this requirement would be to add a new screen room to the system. Our solution, however, was to utilize the existing screening equipment and modify the flow through the screening system. This flow modification is a new process called "VSF," which stands for variable split flow.

The mill produces chips using a drum debarking and chipping line, and it also receives chips from several satellite chipping operations. The mill uses both softwood and hardwood chips. The chips are outstocked and reclaimed by two stacking systems. When reclaimed, the chips pass through a scalping screen and are then conveyed to the screen room infeed bin. The bin meters the chips into two separate screen lines. The chips first pass through the new VSF screen. These screens are variable-flow screens and are the key to the new process. By measuring the chip flow and controlling the speed of the screens, approximately 40% to 60% of the chips can bypass the existing thickness screens. This allows an increase through the screening system of 40% or more and improves the screening performance of the existing equipment.

This project consisted of modifying the infeed conveyor and installing a new feed bin and two new VSF screens. Modifications were required to the structure and electrical power and control systems. The project was complete with no unscheduled down time and came in under budget.

SCOPE OF ENGINEERING SERVICES PROVIDED TO GEORGIA-PACIFIC CORP.

I. Preliminary Engineering

- a. Assisted in development of the new VSF screening process by analyzing test data and coordinating implementation of equipment into existing screening system.
- b. Developed system layouts and project scope.
- c. Prepared project estimate and project schedule.



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II. Detailed Engineering

- a. Provided engineering, including all mechanical, civil, structural, electrical, and control design.
- b. Wrote technical specifications for all purchased equipment, fabrication, and installation services. Contracts written for lump sum and unit prices depending on activity.
- c. Assisted owner in selection of all vendor equipment and worked with owner's purchasing department in procuring all equipment, fabrication, and labor required for the project.
- d. Provided on-site engineering support, including operator training and electrical control programming.

ENGINEERING SCOPE:

Detailed Engineering

Demolition

Foundation modifications (including piling)

Chip reclaiming analysis

Structural

Selection of equipment

Screen line design

Electrical power distribution

Control (PLC)

Field engineering

Scheduling