

# CASE STUDY

## Discflo, Standard for Black Liquor Soap

### *Paper Mill, North Florida*



A major paper manufacturer in North Florida has made the Discflo disc pump its standard for tough applications. They recently installed black liquor soap pumps at their mill in Florida. Discflo has solved their problems, which has led to the pulp mill manager approving the replacement of all black liquor soap pumps with Discflo pumps within the next couple of years.

The first pump was installed in 1992, and with the three pumps installed last month (July 1997), the company now has six pumps (model 403-2HHD-14") for black liquor soap. These pumps replace gear and lobe type pumps, both of which had problems handling this fluid.

The black liquor soap being pumped at the plant has all the hallmarks of a difficult-to-pump product. It is highly viscous - up to 60,000 cPs when cooled, thixotropic, and very abrasive, with a solids content (from sodium sulphate crystals and other by-products of digestion) varying from 2-3% to as much as 20% of the fluid. It also contains extremely high volumes of entrained air and therefore has a specific gravity of 0.9 despite its highly viscous nature.

The previous pumps had to be rebuilt on average every 90 days mainly due to the entrained air and high solids. The first disc pumps have now been running for five years, and the company is highly satisfied with their performance: "In five years, we have never had to do any repairs to the pump, and during routine inspection I have never noticed any wear to the internal parts of the pump" reports the Pulp Mill Maintenance Supervisor. "The first Discflo pump paid for itself in six months." The company plans to replace the rest of its black liquor soap pumps with disc pumps as soon as their budget allows.

The mill has also made disc pumps the standard in their bleach plant - the bleach plant manager has instructed his employees only to use Discflo pumps for the notoriously difficult pumping application - pumping defoamer polymer to the top of the bleach tower.

The defoamer polymer is both highly viscous and highly abrasive, and caused the previous gear pumps to be rebuilt every 6-8 weeks. Four Discflo pumps (model 2015-2HHD-8") have been installed to date in this application, with the first starting up five years ago. In this time, they have run trouble-free with no spare parts required and no repairs: "We have totally solved the problems in this application," said Herb Irish, the Discflo distributor in Alabama responsible for these projects.

### The Challenge

Highly viscous, thixotropic black liquor soap

Entrained air and high solids caused pump failure

Viscous, abrasive defoamer polymer

### The Discflo Solution

Discflo pump designed for very high viscosity, high solids fluids

Laminar, 'non-contact' action allows high levels entrained air

No repairs in five years – estimated payback, 6 months

**Call Discflo now to find out how our pumps can solve your problems.**

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