

Pulp Mill Technology

A synergy of integrated pulp and paper solutions

SPECIALIZED CHEMICAL TREATMENTS

- Cooking aids for enhanced pulping performance
- Washing aids for improved washing performance and contaminant removal
- Contaminant control programs for improved pulp production and quality
- Pulp specialty programs for improved causticizing loop performance and by-products recovery

At Hercules Pulp and Paper Division, we utilize our comprehensive array of functional, process and water management chemicals and technologies to integrate solutions throughout your mill. Our on-site management approach, coupled with our application experts and research scientists, enables us to create a synergy of mill-wide solutions that increase your ability to compete.

As a pulp mill operator, you are faced with ever-changing global market conditions that push you to produce pulp of a higher quality while demanding that you reduce your overall operating cost to maintain profitability. Environmentally, you also need to eliminate the use of elemental chlorine in bleaching while achieving effluent minimization goals.

Hercules Pulp and Paper Division serves only one industry and is committed to finding the right programs you'll need to succeed. For pulp mill technologies, Hercules provides cost-effective solutions in the following areas:

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| • Cooking aids | • Pitch control |
| • Washing aids | • Scale control |
| • Felt conditioners | • Liquor clarification aids |
| • Boilout programs | • Lime mud dewatering aids |
| • Effluent treatments | • By-product recovery aids |
| • Recovery boiler/fire/
water side treatments | • Water conservation
for pulp mills |
| • Automated feed and
monitoring equipment | • Brown stock foam control |



Cooking Aids

To achieve enhanced pulping performance, cooking additives provide several major benefits:

- Improved liquor penetration
- Reduced pulp rejects and shives
- Reduced pulping variability
- Improved pulp washing

Depending on your individual needs, these benefits can translate to strength improvement, alkali reduction, a reduced recovery load and an increase in yield.

Washing Aids

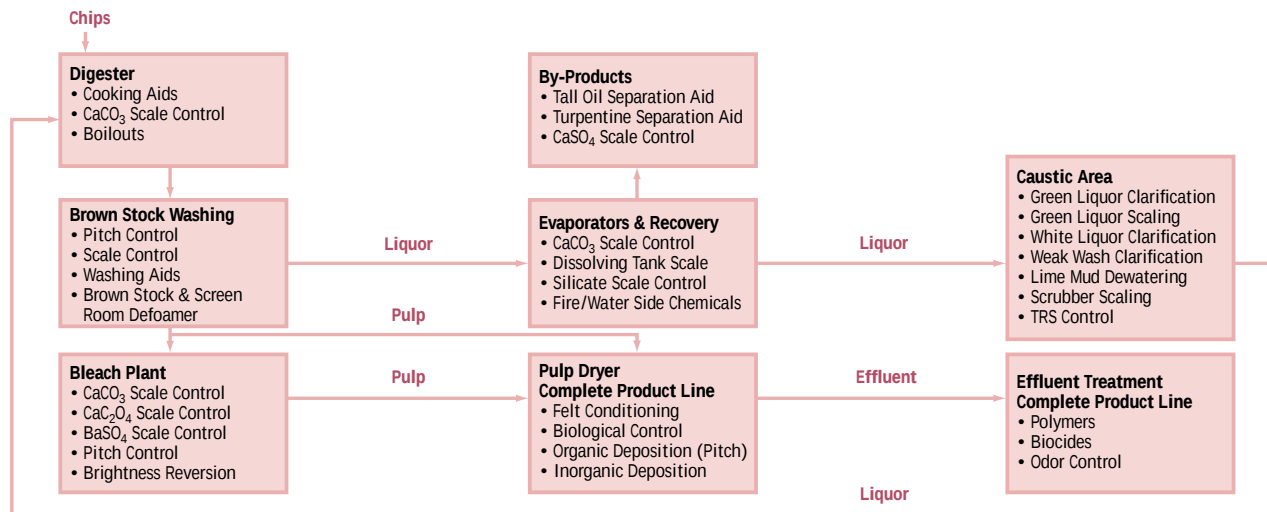
Our pulp mill line of washing aids reduces organic and inorganic carryover which offers the ability to:

- Reduce bleach plant chemical consumption
- Reduce evaporator loading
- Increase production

Pitch Control

With the broadest line of specialty products including detackification technology, surfactant blends and surfactant/dispersant blends, Hercules is the industry leader in pitch control programs and application know-how. This understanding is key to the successful application of these products to counter problems such as fiber line deposits, high dirt counts, high talc usage and poor brown stock washing.

PULP MILL APPLICATIONS



Scale Control

Because of the negative effects that scale has on the different parts of your pulping and bleaching systems, it takes highly specialized products and applications to control the problem.

For example, you'll realize a return on investment when a properly identified and applied scale control program provides the following benefits:

- Improved washing efficiency, reducing bleach plant chemical usage
- Control of scale buildup on washer vats, mats and/or slides, reducing the potential for increased dirt count
- Reduced digester scaling, maximizing productivity between acid cleanings

Pulp Specialty Programs

Hercules' pulp mill technology includes a complete line of products for pulp dryer fabrics, wire conditioning, liquor clarification, by-products recovery, boilouts and lime mud dewatering processes. Additionally, we have an extensive line of effluent and recovery boiler treatments.

Water Conservation

With growing pressure to conserve water and meet environmental demands, the pulp mill of the future will have to operate with a more closed water system. Hercules has long

been an innovator in developing products and procedures that maximize the benefits of water conservation while minimizing negative effects, including the increased presence of barium and calcium scales.

Automated Feed and Monitoring Equipment

To ensure total optimization of our pulp mill technology, we also provide an advanced package of electronic monitoring and control equipment that consists of three components:

- Data collection system
- Windows¹-based data management software
- Monitoring and control sensors

Value-Added Benefits of Our Pulp Mill Technology

Increasing production while maintaining high quality standards is a challenge that pulp mill personnel face daily. At Hercules, our team of field representatives is committed to helping you meet these tasks.

With the right products, equipment and a complete understanding of your process, we can specify a treatment program tailored to meet your needs, optimizing the performance and profitability of your system.

To learn more about Hercules Pulp and Paper Division, visit us online at **www.ppd.herc.com**.

Complete Solutions for Pulp and Paper

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Pulp and Paper Division

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