

RETENTION, DRAINAGE & CLARIFICATION TECHNOLOGY

**Bringing the right products and people
to your papermaking**



Solenis is dedicated to helping pulp and paper mills operate more efficiently and profitably. We offer a state-of-the-art product portfolio that addresses nearly every aspect of papermaking. Our highly skilled team of field sales representatives, applications engineers, and research scientists ensure our products work in your specific mill environment. By bringing together the best of both worlds — innovative chemistries and innovative people — Solenis is setting the standard in papermaking excellence.

Retention, Drainage & Clarification Technology

Your challenge is to achieve optimum machine performance at the lowest possible cost. Complicating your task is the fact that each individual raw material and chemical additive has interdependent properties. They must be precisely balanced if you are to achieve the maximum paper performance.

Case in point: Chemical additives that are part of retention programs provide benefits to the overall machine process but

can also impact formation. Retention and drainage must be balanced with formation to achieve the desired sheet quality at an effective production cost.

Retention, drainage and clarification programs from Solenis are designed to help you achieve and maintain efficiency and profitability while meeting ever more stringent environmental regulations.

Our technology includes everything you need to achieve your papermaking goals:

- One of the broadest product offerings in the industry, including proprietary micro-particles, advanced charge control coagulants, water dispersed, VOC-free polymers and other unique polymer technologies
- Program flexibility to meet the needs of specific applications and quality goals
- State-of-the-art product feed systems
- PerForm™ VMax polymer mixing & injection system – providing enhanced polymer and water efficiency for paper machine retention applications
- Global technology support and development



The Total Performance Approach

With Solenis' total system approach, you will achieve and maintain the ideal balance between retention, drainage, and formation. Consistent retentions can produce higher machine efficiencies. Improved formation can mean improved sheet strength.

Our expertise allows us to correctly identify and understand your specific needs in designing a program for retention, drainage and formation. The Solenis team of specially trained technology support personnel starts with your dedicated field representative. Before we even begin to discuss which system or application will best meet your needs, we take the time to learn the particulars about your situation, including the factors influencing:

- Machine runnability
- Sheet quality
- Grade development Additive efficiency
- Clarification issues
- Program performance and cost

The Experience to Optimize the Effectiveness of Retention and Drainage Technology

Solenis retention and drainage technology provides you with the flexibility of manipulating variables such as speed, fiber mix, filler loading, refining energy, fiber substitution, headbox consistency and table setup. The results of this strategic "fine-tuning" translate into highly competitive production economics and expanded product quality capabilities, bringing advantages to all parts of your paper operation. Solenis' polymers improve mill performance in such critical areas as:

- Machine speed and production
- Wet-end additive usage
- Furnish cost
- Increased sheet ash and high-brightness grades
- Sewer losses
- Weight and moisture variations



Polymer Technology Benefits Your Clarification Process

Solenis' chemical solutions are specially formulated to provide the performance required to meet your needs on savealls and in clarification processes. Solenis provides the programs and applications technology necessary to handle the unique needs of the following systems:

- Savealls
- Clarifiers
- Sludge presses

Our technology works throughout your clarification system for benefits such as:

- Increased throughput
- Reduced effluent turbidity and solids
- Improved fiber recovery
- Improved stickies, wax, and other contaminant removal
- Improved clarifier efficiency

Understanding Your Future Needs

At Solenis we closely track the ever changing marketing and operational needs of our customers. This way, we can develop new technology programs and application techniques to keep you on the competitive edge. In fact, some of our current retention, drainage and clarification technologies were the direct result of Solenis scientists developing solutions to address identified needs, such as:

- Reducing fiber and furnish costs
- Fiber substitution and increased filler loadings
- Higher brightness
- Improved sheet quality
- Improved drainage
- Improved clarification as mills continue toward increased white water closure
- Increased production

We also have personnel dedicated to understanding environmental and regulatory trends. By monitoring these areas, we can provide new technology that addresses the increasingly stringent demands placed on our customers.





Solenis

Strong Bonds. Trusted Solutions.

Solenis supplies specialty chemicals for water-intensive industries, including the pulp and paper, oil and gas, chemical processing, mining, biorefining and power markets. Whether you want to increase production, develop new products, reduce costs or simply do more with less, we can help. With our innovative technologies, passionate people and unrivaled experience, Solenis is ready to deliver the solutions you need.

To learn more, contact your technical sales representative or visit us online.

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