Paper and Materials Testing Services

Customer Product Improvement and Development Services

For more than 100 years, Solenis has helped pulp and paper mills all over the world optimize performance and efficiency with a wide array of innovative specialty chemicals and monitoring and control equipment. Our customers rely on our deep expertise, our on-site management approach, and our seasoned team of application experts and research scientists to remain competitive in increasingly challenging environments. The Customer Applications Laboratories, which include Paper and Materials Testing Services, serve as hubs of our application expertise, ensuring that Solenis is prepared to meet the needs of our customers today and into the future.

SOLENIS™
Strong bonds. Trusted solutions.

Comprehensive services. Global reach.

The Global Customer Applications Laboratories ensure that Solenis is prepared to meet the needs of our customers today and in the future. We work closely with our sales, application, and research teams to understand our customer's processes and related issues as well as assist in the development of new treatment technologies. This ensures that Solenis is prepared to address the future needs of our customers.

Solenis' Customer Applications laboratories support our customers globally with laboratories located in Wilmington, Delaware; Paulínia, Brazil; Krefeld, Germany; Barendrecht, the Netherlands; Terrassa, Spain; and Shanghai, China. They are staffed with experienced scientists and technicians who model many processes to recommend effective process improvements with the goal to enhance our customers' papermaking productivity and product quality.

Packaging

Packaging covers a wide range of products and is an important component of our global economy. Packaging materials made from paper products help keep shipping costs down and accessibility high.

Structural Integrity

Structural strength is important to maintaining high-quality packaging of goods being transported. Our strength testing is used to maximize a packages resistant to crush and internal failure when stacked, stressed, or shipped/stored in challenging environments such as high temperature or humidity.

- Stiffness, in-plane and deflection
- Crush resistance on a single component and a folded or mold formed structured (from boxes to egg cartons)
- Puncture and tear resistance
- Internal bond and delamination strength

Anti-Slip

A component of safe shipping both for the goods and people involved.

- Comprehensive frictional analysis – static and dynamic coefficient of friction, slide angel, abrasion resistance

Sizing and Barrier Applications

Solenis has testing capabilities to determine surface and internal sizing for a wide range of materials both aqueous and aliphatic. We have designed specialized testing capabilities to evaluate food and liquid packaging products, two of the most engineered grades in the market today.

- A comprehensive series of various edgewick evaluations with the expertise to match (solo, video microscopy, in-plane flow, failure analysis).
- Timed and conditioned penetration studies to determine a packaging material's resistance to specific materials (pet food, oils/greases, customer specified).

Tissue

The use of tissue products continues to expand with globalization and improvement in the quality of life across the world. Tissue products offer some of the most complicated properties that Solenis is well suited for with the combination of our expertise, testing capabilities and tissue innovation center.

Strength

Tissue products have a wide range of strength requirements. These include dry strength for processibility, permanent wet strength for towels, and temporary wet strength for bath and specialized products.

- Tensile, ball burst, drapability
- Linting and debonding strength
- Dispersibility

Softness

Softness determination is a non-trivial task. Solenis has a wide range of capabilities to evaluate softness from its most basic components to complex algorithms and human sensory panels.

- Tissue Softness Analyzer that can be adjusted to specific product and regional specifications.
- Trained and qualified hand-feel panels.
- Handle-o-meter.

- Friction analysis
- Specialized testing available at our Tissue Innovation Center

Fluff Pulp

Fluff pulp goes into a wide range of products for adsorption of liquids. We have the tools to evaluate the processiblity of current lines as well as assist in feasibility studies for converting an existing pulp line to fluff pulp.

- Hammermill energy consumption
- Debonding Strength
- Absorption rate and capacity
- Static potential

Graphic and Specialty Paper Products

The written or printed word is a strong form of communication even in this modern age. Products from magazines and journals to reports and memos are widely used tools for marketing, scientific progress, and enjoyment. Solenis has specialized tests to optimize or evaluate printed material.

Printability

The forefront for evaluating graphic and specialty paper products is printability. Good printability is a balance between sizing, paper structure, and absorption or compatibility of inks and toners.

Problems on the production line? Package them up and send them to us.

- Color, brightness, and sheet opaqueness analysis (color mapping, density, mottle, fluorescence)
- Ink compatibility (dynamic contact angle, runnability, toner adhesion)
- Surface and structural properties (smoothness, porosity)
- Image analysis (feathering, dot circularity, ink to ink compatibility)
- A range of techniques for determining paper formation
- Latest and industry standard capabilities in regards to determining sizing of all types of paper products

Processability

A quality image is only useful if the paper media has the structural properties to make it through a printer. Everything from high speed industrial offset to office and home toner and inkjet printers.

- Stiffness
- Tear
- Tensile
- Coefficient of friction and slide angle

We have the experience to investigate the quality of many specialty grades of paper. Some examples include anti-sceptic, building materials, filters, wrapping, insulating, layered materials.

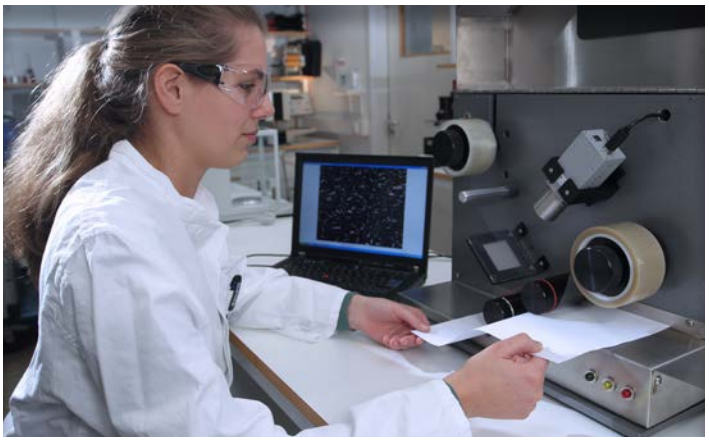
Colorants

Colorants enhance the value of paper products. Solenis offers a full spectrum of high-quality colorants for the paper industry, both as soluble dyes and aqueous pigment dispersions. Our technical group and applications laboratory work as a team to provide support for our customers, recommending colorant selection based on shade, brilliance, strength, lightfastness and application technique. Colorants are important additives in the following industries:

- Recycled paperboard
- Food packaging
- Bright white and specialty office paper
- Tissues
- Newsprint

Non-Paper Products

To support our non-paper customers we are constantly growing our capabilities and expertise. A few examples where we have capabilities in this area are non-paper building materials, well capping for mining, plastics and elastomers.



Quality testing, method verification, and continual excellence.

Solenis Paper and Materials Testing Services participates in several programs to ensure the results and analyses we provide are accurate and up-to-date.

- Internal collaborative testing between all Solenis Regional laboratories
- External collaborative testing with non-Solenis paper and material testing laboratories
- Within each lab many of our instruments are duplicated allowing for immediate comparison
- Regular method reviews and technician training to ensure we are providing the most accurate data possible
- Yearly Preventative Maintenance and Calibration by equipment suppliers and professionals

Real-world science. Rapid response.

The quality of communication between Solenis' lab teams and our customers is just as important as the quality of the science in supporting the efficiency of industrial operations. Seamless coordination between lab and field, supported by state-of-the art systems and software, ensures timely transmission of results to sales representatives for fast interpretation and problem-solving recommendations.

Advanced solutions for your toughest challenges.

Solenis is a global leader in specialty chemicals for water-intensive industries. With an average of 20 years expertise, our team is the industry's most knowledgeable. That's how we solve your toughest operational and sustainability challenges—whether you're in the pulp, paper, oil and gas, petroleum refining, chemical processing, mining, biorefining, power or municipal market. Combining the right people, the right experience and the right technology, we're built to deliver value.