

WATER APPLICATIONS TESTING SERVICES

**World-class solutions for the world's
most important resource**



Water is the lifeblood of most industrial operations. It's also the focus and passion of Solenis. For nearly 100 years, our experts and research scientists have helped facility managers and engineers in water intensive industries optimize their water treatment processes with an array of innovative specialty chemicals and equipment. The Customer Application Laboratories, which include Water Applications 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.

Providing insight into operating issues and challenges

The health of a plant's water supply has an enormous impact on the health of its bottom line. For this reason, major industrial, mining and municipal customers count on Solenis' Water Applications Testing group to help them improve performance, reliability, energy efficiency and profitability of their operations. Our technical field representatives work closely with customers to understand and troubleshoot water-management challenges, relying heavily on information that the Water Applications Testing group produces.

Detailed simulation of unit operations is absolutely essential to the work we do. Using laboratory bench and pilot-scale equipment, we can evaluate existing and newly developed technologies and explore "what-if" treatment scenarios under actual-use conditions. Process water quality can be synthesized or the customer's water can be brought to the laboratory for treatment evaluation. In either case, hard data and the insights gained from our extensive experience produce confident and well documented treatment recommendations.



Helping our customers to use their processes at peak efficiency

The Water Applications Testing group uses their extensive water and industry knowledge to provide insights that help our customers extend asset life, lower environmental impact of water-handling processes and/or help comply with increasingly stringent government regulations. We can offer technical expertise and problem solving capabilities to enhance the performance of mining and biorefining processes,

industrial boiler, heating and cooling systems, as well as heat exchangers and solid/liquid separation applications.

Regardless of the specific solution, our goal is to help customers improve system efficiency and maintain safe working conditions within their water treatment systems.



Advanced facilities and process modeling systems feature pilot cooling towers

Solenis' Water Applications Testing laboratories support customers worldwide from technical centers in Wilmington, Delaware; Paulínia, Brazil; Krefeld, Germany; Barendrecht, the Netherlands; Drammen, Norway; Terrassa, Spain; and Shanghai, China. These facilities house extensive analytical capabilities and innovative process testing instrumentation. The facility in Wilmington contains pilot cooling towers equipped with fouling monitors that can be used to study biofilm and inorganic scale control using chemical and mechanical evaluation and treatment technologies.

Cutting-edge technology development to deliver the next generation of solutions

Over the years, the Water Applications Testing group has gained a great deal of expertise about the relative strengths and limitations of current treatment technology through real-world service to existing customers. This knowledge is transferred to our R&D team to support their work on advanced technologies and solutions. Our scientists benchmark newly developed treatments against existing technology to maximize their performance and value, long before they reach the marketplace.



Water Applications Capabilities

PROCESS MODELING SYSTEMS

- Pilot cooling towers
- Spinner baths for corrosion inhibition screening
- Electrochemical tests for evaluation of corrosion treatment programs
- Recirculation systems for heat transfer corrosion studies
- Incubator shakers for antiscalant studies
- Capillary tube blocking monitor for antiscalant studies and process simulations such as open and once-through cooling systems and process circuits
- Autoclaves for evaluating thermal stability/decomposition products of treatments
- Geotube* filtration/drainage testing for wastewater clarification studies
- Flotation cells for mining applications
- OnGuard™ analyzers for real-time detection of fouling and scaling
- Mareco* stamp presses for evaluation of solid/liquid separation
- Sieve tests with "high stress" stirring for simulation of centrifuge solid/liquid separation
- (Mining) Shaking tests for minerals sedimentation processes
- Contifoam* measuring device for automatic continuous foam-height measurement for defoamer studies
- Grinding mills for evaluation of mineral processing additives
- Rheometers for measurement of yield stress/viscosity of mineral slurries
- Centrifuges for corn oil extraction aid product screening
- Multiple test methods for screening dust control products

SPECIALIZED SERVICES

- Process and system audits
- Critical analysis including water, deposits, microbiology, process streams and metallurgical composition/preservation
- Advanced feed and control systems
- Specialized monitoring
- Customized water and process treatment solutions



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.

All statements, information and data presented herein are believed to be accurate and reliable, but are not to be taken as a guarantee, an express warranty or an implied warranty of merchantability or fitness for a particular purpose, or representation, express or implied, for which Solenis and its subsidiaries assume legal responsibility.

®Registered trademark, Solenis or its subsidiaries, registered in various countries

™Trademark, Solenis or its subsidiaries, registered in various countries

*Trademark owned by a third party

©2017, Solenis

170032



Global Headquarters
Solenis LLC
Wilmington, Delaware
solenis.com