



BKT Boğazici Kimyasal Teknolojiler San. ve Dış Tic. Ltd. Şti Merkez: Necip Fazıl Mah. Harbiye Sok. No:22 Ümraniye / İstanbul Fabrika: Yeni Mah. 2113 Sok. No:9 Hendek / Sakarya





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Boğaziçi Chemical Technologies 02



Who Are We?

Our company, since 2006, has been operating under the name BKT Boğaziçi Kimyasal Teknolojileri Sanayi ve Dış Tic. Ltd. Şti., with our experienced engineering team in the fields of water conditioning, water treatment, and wastewater recovery under the BKTWATER brand..

Our company, with its headquarters in Istanbul, manufactures water treatment and wastewater recovery products at our factory in Sakarya Hendek, utilizing its own technology and engineering expertise.

As of today, our company is in a position to contribute to the economy through exports. Russia, Italy, Bulgaria, Romania, Serbia, and the Turkic Republics are among the main countries we export to.

BKT is the regional distributor of KURITA Turkey Chemical Inc. for the Eastern Marmara and Tatarstan regions in the field of water conditioning chemicals. With our experienced engineering team, we provide chemical sales, consulting, and service services to factories in our region. Our company, with its experience in the water conditioning and consulting sectors, offers customers advantages such as extending the lifespan of facilities, reducing energy consumption, and ensuring optimal workplace safety.

Since 2010, our company has been producing and implementing turnkey projects in Industrial Water Treatment and Wastewater Recovery both in Turkey and worldwide.

The recovery of polluted water, the conservation of natural resources, and the promotion of water savings are becoming increasingly important every day. Our company, with the strength derived from its infrastructure and knowledge, feels responsible for contributing to this process. Through the facilities we have established, we actively participate in water conservation and the recovery of wastewater, fulfilling our environmental responsibilities and adding value to the businesses we work with.



We Are Experts in the Fields We Serve!

Water Conditioning
Industrial Water Treatment
Wastewater Treatment
Systems Consulting and Engineering Services
Laboratory Services
Online Automation Systems





WATER CONDITIONING

BKT is the Eastern Marmara and Tatarstan regional distributor of KURITA Turkey Chemical Inc. in the field of water conditioning chemicals. Kurita is one of the world's leading suppliers in industrial water and process conditioning. Founded in 1949, Kurita is a Japan-based company. Operating in 130 countries worldwide, Kurita has four production facilities in Europe, alongside its sales offices. Two of these facilities are in Germany, one in France, and one in Turkey.

80% of the products sold in Turkey are manufactured at Kurita's production facility located in Balıkesir Bandırma. Kurita, with its patented technologies, 6,600 employees, and 135 years of industry experience through various mergers, is a global player in its field.

WE ARE WORKING TOGETHER

Tailored Concepts to Meet Your Global Needs



RECOGNITION

Clarifying Your Requests and Defining Key **Objectives After On-Site Exploration.**

DEVELOPMENT

Tailor-Wade Integrated Solutions for You.



APPLICATION

03



User-friendly applications aimed at reducing your total operational costs.

EXPERTISE

Meeting your on-site needs and providing solutions through our expert team.



EVALUATION

Ongoing development efforts with continuity







Boiler Water Conditioning

To achieve the highest efficiency in a boiler system, proper boiler water conditioning is essential. The formation of scale and deposits, corrosion, localized overheating, and steam carryover can cause problems in boilers, leading to reduced operational safety and significant economic damage. To prevent these issues, Kurita offers innovative technologies to prevent scale and deposit formation as well as corrosion in all parts of boiler systems, including feedwater tanks, boilers, steam, and condensate systems.



Cooling Water Conditioning

Innovative Solutions to Prevent Corrosion, Scaling, and Microbial Growth

In all water-cooled processes, optimal heat transfer is the most crucial factor. Scale, deposits, and biological contamination negatively impact heat transfer. Therefore, Kurita develops customized solutions that combine scale and deposit preventers, corrosion inhibitors, and biocides for cooling water and process water systems. These solutions are designed to maintain efficient operation and prevent issues that could affect performance.



Closed-Loop Water Conditioning

Cetamine® Technology

Cetamine® Technology is a comprehensive and innovative technology for closed-loop water conditioning. Based on the principle of creating a hydrophobic amine film layer adsorbed on metal surfaces at every point in the system, this technology forms a continuous barrier between water and metal, preventing corrosion without affecting heat transfer. CETAMINE® is the latest and most advanced technology in water conditioning, offering an easy way to control your entire system with a single product.



Reverse Osmosis Chemicals

Membrane Conditioning with Reverse Osmosis Systems

Membrane units are widely used in the preparation of process water after pre-treatment and have become one of the most important technologies for producing high-purity water. However, these systems are at high risk of contamination due to organic and inorganic fouling, which can result in the need for frequent maintenance and shutdowns, as well as unplanned requirements such as high operating costs. Our conditioning programs are specifically designed for reverse osmosis, ultrafiltration, and nanofiltration, providing preventive control against organic and inorganic fouling and contamination in membrane units.





Wastewater Treatment Chemicals

The challenges of wastewater treatment systems are largely dependent on water quality. Kurita develops various products and solutions for improving water quality and wastewater treatment, in compliance with relevant regulations and in an environmentally respectful manner. Different Kurita technologies reduce operational costs while carefully aligning with the needs of each facility through water quality optimization and improvement. We offer complete solutions for efficient, optimized wastewater treatment and enhanced water reuse in your facilities, and we work closely with our customers to minimize discharges, one of our primary goals.



The Geothermal Energy

The Geothermal Energy industry has become one of the fastest-growing environmentally friendly energy sources, quadrupling its capacity over the past decade. Kurita supports the daily production development of geothermal fields by addressing issues such as corrosion, silica deposition, and liquid management.



Pool Water Conditioning

Kurita offers a wide range of products for water conditioning in swimming pools. These products have been in use for many years and have proven their effectiveness. Swimming pool water conditioning is subject to standards and regulations. Our swimming pool product range allows you to choose your own maintenance program while ensuring hygiene in your pool without using any harmful substances for human health.



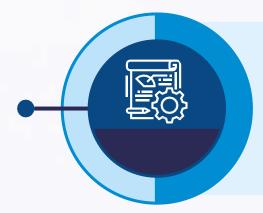
Drinking Water Conditioning

Kurita has developed specialized products aimed at preventing any issues that may arise in the preparation, transportation, or use of drinking water. Our technologies can be used under all conditions in facilities that supply water to both municipalities and private buildings (such as hotels, universities, hospitals, and homes).

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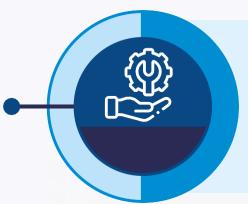


PROJECT PLANNING



With our expert and proven project and R&D team, we provide system design and project planning services in the desired capacities, based on our customers' requirements.

INSTALLATION - ASSEMBLY SUPERVISION - SERVICE



Your systems are installed and assembled by our team, making them ready for operation. After commissioning, we continue to support you with necessary training and after-sales service.

PROJECT CONSULTING



We provide project consulting services for the revision of your existing systems, maintenance, and inspections. Additionally, for new facilities, we offer consulting, technical specification creation, and identification of necessary projects.

TURNKEY TREATMENT PLANTS



We carry out turnkey projects by designing systems based on the desired capacities and required product water characteristics. This includes the production of systems in our factory, preparation for shipment, building construction, layout planning, piping, electricalautomation setup, commissioning, and training.

Sand Filter

Filtration units remove undesirable substances such as sludge, sand, suspended solids, and particles causing turbidity from the water, making it suitable for use. This system also enhances the efficiency of other potential treatment units that may be applied.



Softening Systems

The ions of Calcium (Ca2+) and Magnesium (Mg2+) found in raw water are the most common causes of hardness and problems in industries that use water. These ions negatively affect the quality of products in industries such as textiles, chemicals, and machinery, as well as in surface and heat treatment baths. Additionally, they cause issues in heatingcooling systems, steam boilers, circulation systems, and pipes. Therefore, water softening systems are widely used for both industrial and domestic purposes.





Activated Carbon Filters

Activated carbon systems absorb many organic substances that create a suitable environment for bacteria on their surface, thus preventing potential bacteriological contamination. The efficiency obtained from this unit may vary depending on the quality of the selected carbon mineral, the medium that will handle the desired flow rates, and the choice of equipment and automation systems.

Industrial Water Treatment



Ultraviolet (UV) Systems

Our company collaborates with Hanovia as a solution partner in UV disinfection systems. Hanovia has been a leader in UV disinfection systems for over 90 years. Working with the biggest names around the world in industries such as food, beverage, electronics, pharmaceuticals, aquaculture, cosmetics, swimming pools, and many others, Hanovia provides the best solutions with top-notch technical support to meet the needs of its customers.

Our company is aware that each business has different water quality needs based on its usage. By designing units tailored to specific industries, we offer alternative solutions beyond traditional methods. You can benefit from our exclusive services by calling us, taking advantage of free on-site assessments and project planning services, and gaining a competitive edge.



Iron and Manganese Removal

Iron and manganese, typically found in dissolved form in water, cause a yellowish-brown turbidity. This situation leads to undesirable results, especially in industries such as textiles, leather, food, paper, and plastics.

Iron-manganese filters, which can be designed for the desired flow rates, remove iron and manganese from water through oxidation/filtration methods. The fact that no chemicals are needed for the regeneration of the filtration mineral makes the system more economical compared to other methods.



Dissolved substances in high concentration Semipermeable Membrane Dissolved substances in low concentration

Reverse Osmosis

The process of separating dissolved salts from saline water that has been physically treated (with particles and suspended solids removed via filtration) using reverse osmosis (RO) is called water purification with RO. Reverse osmosis is the artificial reversal of the natural osmosis process. With RO systems, various types of surface water (lakes, dams, etc.), well water, brackish well water, and even seawater can be treated after physical pre-treatment. It is widely used in industries today.



Nanofiltration Systems

Nanofiltration Systems are used by passing water through a semipermeable membrane with an average pore size of 0.001 microns under pressure, for purposes such as hardness removal, bacteria and virus removal, demineralization, desalination, COD removal, and wastewater recovery.

Industrial Water Treatment



Seawater Desalination

Seawater is highly saline and, with advancing technology, can be treated using various methods. Among the known methods for seawater treatment, the most commonly used today is Reverse Osmosis. Seawater Reverse Osmosis systems are designed to increase the ion concentration of dissolved substances (Total Dissolved Solids) in seawater through membrane filtration.



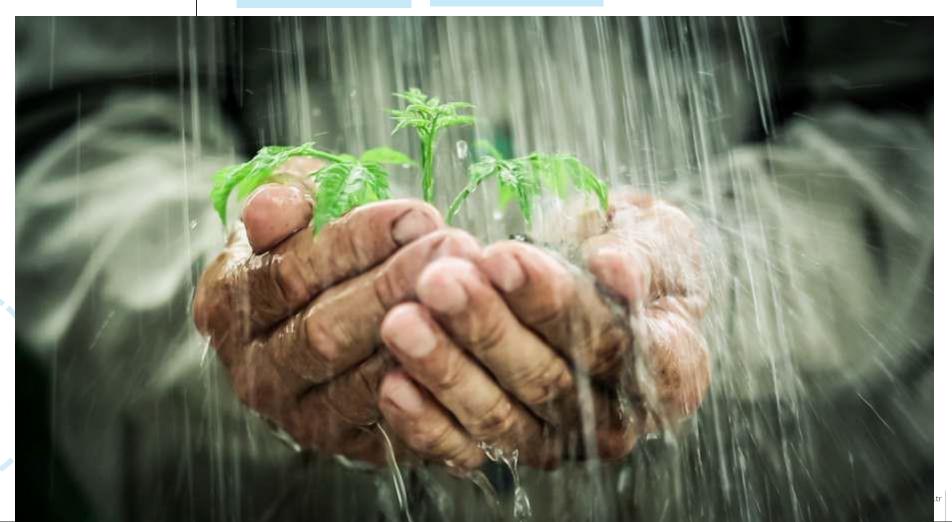
EDI

Electrodeionization (EDI) is a technology in which anionic and cationic ions in water are removed through the integration of ion exchange resins and electrical energy, resulting in the production of ultrapure water. EDI systems are the second stage in ultra-pure water production, where ions remaining in the water after Reverse Osmosis are removed to produce ultra-pure water (<0.05 mS/cm).



In the Ultrafiltration (UF) method, the filtration process is based on passing a liquid through a semi-permeable membrane under the effect of hydrostatic pressure. While high molecular weight solids and insoluble substances are retained, water and low molecular weight dissolved substances pass through the membrane.

UF, integrated with other technologies in water treatment systems, is an ideal method for separating colloids, proteins, bacteria, and macromolecules from water.





Electrochemical Reactor

Electrocoagulation has a wide range of wastewater treatment capacities. With a minimal amount of electric current, it destabilizes suspended, emulsified, or dissolved pollutants in an aqueous environment. This reduces the additional costs required for the process. In fact, it has proven to replace less effective and more expensive processes like filtration and chemical treatment. Considering its advantages, it is an innovative solution that provides a removal rate of 65-95% in COD and BOD values.



Dissolved Air Flotation (DAF) Systems

Dissolved Air Flotation (DAF) treatment systems remove suspended solids from water. They offer a cost-effective alternative to traditional sedimentation treatment processes. In the DAF clarifier, millions of micron-sized air bubbles float and aggregate at the surface of the tank, forming a concentrated sludge blanket. A scraper removes the thickened sludge. With DAF, we can efficiently remove a wide range of suspended solids from water.





produce noise during operation, and their operation and maintenance are easy.

Static Mixers

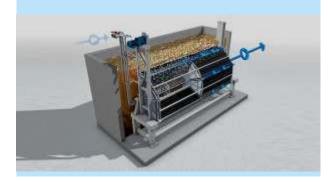
It is a mechanism that ensures the mixing and blending of liquids, powders, and polymer materials. It requires no maintenance, and the mixing elements can be easily replaced when needed. It eliminates temperature changes during mixing, reducing heat-related degradation. Its small and round design allows for easy adaptation and installation. It is suitable for both high and low flow applications and provides homogeneous mixing in a very short period of time.

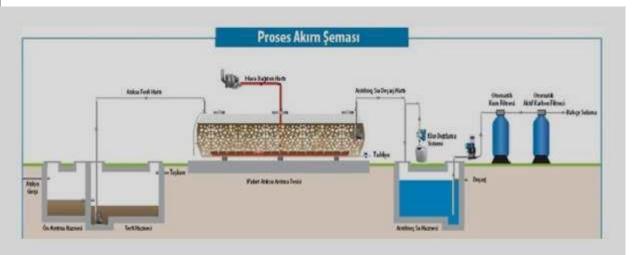
fine and coarse debris from wastewater between 1000 microns and 250 microns without using electrical energy. The advantages of static screens are: they do not require electrical energy, they do not clog, their Z-shaped structure allows for continuous use, installation is simple, they do not



Rotary Drum Screen Filter

Rotary Drum Filters are self-cleaning mechanical filters. The liquid to be filtered enters from the side of the drum and passes through the filter mesh for filtration. The difference in water levels inside and outside the drum, assisted by gravity, allows for filtration. As the drum slowly rotates around its axis, solid particles and other contaminants adhere to the inner surface of the filter. During the rotation, the particles are cleaned from the surface with the help of high-pressure spray nozzles and are collected in a tray. This process prevents the breakdown of soft organic particles and increases the filter's efficiency.





Biological Package Treatment Systems

The package treatment plants designed by BKTWATER are based on the "sequencing batch reactor (SBR)" principle. The sequential batch reactor operates with a fill-treatment-drain logic.

The package treatment system consists of a balancing tank, aeration tank (biological reactor), wastewater lift pump, blower, diffuser system, treated water discharge pump, chlorine pump, and automation panel.

These units are automatically controlled by a PLCbased control panel.



Gray Water and Ultrafiltration Technology

Water without taps in sinks, bathrooms, and showers is called gray water. Gray water accounts for approximately 40% of daily water consumption per person. The most notable feature that separates gray water from black water (septic) is that it can be treated at a lower cost due to its lower pollution load. Ultrafiltration technology is the most effective treatment method for gray water treatment and recovery.

Gray Water Recovery

- Save 40% of your water bill
- Usage in storage, irrigation, etc.
- Investment costs recovered in 12-16 months
- Low energy consumption with advanced membrane technology
- · Easy to use and maintain



Wastewater Recovery





Fast Slow Mixers

These are structures where chemical substances are mixed into water, ensuring uniform distribution. The efficiency of mixing is directly related to the turbulence created, so maximum turbulence should be achieved with minimal power consumption.

Flocculation is the process in which small flocs, destabilized as a result of coagulation, combine by slow mixing to form larger flocs that can

The slow mixing process is carried out through mechanical mixing, air mixing, or hydraulic mixing. Mechanical mixers are the most commonly preferred. The most widely used mechanical mixers are pedal-operated circular mixers, although turbine and propeller mixers are also used.

Precipitation Tanks

Precipitation is carried out in specially designed settling tanks, allowing for the separation of settleable solids. In circular pre-settling tanks, the feed is introduced from the center. The wastewater moves from the center toward the outer walls and exits through a weir extending along the outer perimeter. The settled sludge is pushed toward the center by scrapers. Floating substances collected at the top are gathered by a rotating scraper and accumulate in a chamber.

Automatic Polymer Preparation

Polymer preparation units are used in chemical treatment plants, wastewater treatment plants, and filtration systems to aid in coagulation. They are also used in sludge dewatering to condition chemical or excess biological sludge.

Features:

Water injection: Ensures the homogeneous mixing of polymers with

Water meter: Accurately calculates the exact water requirement needed to prepare the optimum polymer.



AC4400

High COD Removal with Electrochemical Reaction

Cetamine® Technology

Corrsave® 100 Dilurit® BC S-System

Latest Technology On-Site Production Biocide

DReeM Polymer™

Comprehensive silica and hardness reducing polymer for steam generators and boiler systems.

HydroBio® Advance

KuriLoc Kit

New Legionella test method

Biofilm Control in Membrane Systems

Rejuvenation Concept for RO Membranes

S. Sensing CS

Real-time Wastewater Monitoring & Dosage Control

S. Sensing MX

Modular multi-parameter platform for cooling water monitoring

Practical and economical solution for domestic and industrial wastewater treatment and recovery.





- It is more effective than conventional coagulation in stabilizing and removing small colloidal particles.
- Less and more stable sludge is formed.
- The use and operation of the equipment is easy.
- The formed sludge has a more dewaterable structure.
- The initial investment cost is significantly lower compared to alternative technologies.
- Many pollutants are removed with a single process.



THROUGH ELECTROCHEMICAL REACTION AC4400 HIGH COD REMOVAL IN WASTEWATER





ADVANTAGES

It takes up much less space compared to classical treatment.

There is no construction cost.

The operating cost is low.

Continuous product quality

COD removal achieves a reduction rate of 60% to 85%.

The sludge ratio is lower.

It does not require biological treatment.

The investment cost is lower compared to conventional treatment.

With the **AC4400** Treatment System

According to EU standards and the Ministry of Environment and Forestry's SKY (Environmental Quality Standards), it is possible to achieve various discharge water qualities based on customer preferences and reuse the discharge water.

It is a wastewater treatment system that treats and reuses domestic and industrial wastewater using the AC4400 E&K process.

It performs nitrogen and phosphorus removal in a single stage with physical, biological, and chemical treatment. As a closed-loop treatment system, it does not create odor problems within the facility or its surroundings.

As a result of the treatment, it generates a low amount of sludge that is classified

Compared to alternative (conventional, package, biological, chemical, membrane, etc.) treatment systems, it can be installed in a very short time and requires much less installation space.

It has lower investment and operating costs compared to alternative (conventional, package, biological, chemical, membrane, etc.) treatment systems,

In plants built according to the current flow rate, capacity expansion can be made within the same facility using additional modules when needed, without the need for additional construction activities.

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Cetamine® Teechnology

Cetamine® Technology, with its all-in-one formulation, improves heat transfer performance in the system, providing our customers with the opportunity to save water and energy while reducing overall operating costs.



Corrsave® 100

Traditional corrosion inhibitors for cooling systems are based on phosphonates, phosphates, or zinc. Some of these are known to have low biodegradability or cause eutrophication (an increase in nitrogen and phosphorus in water). Corrsave® 100 is an excellent solution for situations that require strict adherence to regulatory P limits and high biodegradability.



Dilurit® BC S-Sistemi

Latest Technology On-Site Production Biocide

Biofilm, Legionella, and Pseudomonas in water systems are sources of various problems and are among the main issues in the industry. A system that is not properly controlled can lead to significant economic losses and directly affect public health. Dilurit® BC S-System is a fast and easily detectable oxidizing biocide that breaks down into 100% environmentally harmless inorganic compounds.



DReeM Polymer™

Comprehensive silica and hardness reducing polymer for steam generators and boiler systems.

DReeM Polymer[™] is an innovative dispersant polymer that prevents silica and hardness formation during the normal operation of low-pressure boilers. The multifunctional properties of DReeM Polymer[™] keep the heating surfaces in boiler systems free from deposits, leading to energy savings and a significant reduction in CO2 emissions.



HydroBio® Advance

An online monitoring method to detect biofilm formation in all water systems.

Biofilm control is essential to prevent the growth of bacteria such as Legionella in water systems. Monitoring biofilm thickness is crucial in controlling microbial growth. Kurita offers an innovative online monitoring method for detecting and monitoring biofilm formation: HydroBio® Advance, developed to automatically monitor the biofilm layer's thickness and development 24/7. In this innovative method, both biofilm thickness and heat transfer performance are measured with high precision.



KuriLoc Kit

New Legionella test method

One of the latest innovations in Legionella control is the rapid detection method: the KuriLoc Kit. It provides initial results just 3 hours after sampling and is highly specific. Customers can take advantage of the KuriLoc rapid detection kit by either purchasing their own devices or using the services of Kurita's accredited laboratories.



Biofilm Control in Membrane Systems

The new conditioning applied with Kuriverter™ IK-110 prevents microorganisms from adhering to the RO membrane surface and effectively removes the layers of adhered microorganisms and metabolic products. It maintains the ability to solve problems without requiring additional investment, even in the most challenging processes, such as dirty feed water and inadequate pre-treatment systems.



Rejuvenation Concept for RO Membranes

Membranes that begin to leak salt due to chemical damage must be replaced, which leads to high costs and production losses. However, there is now an alternative: the Kuriverter™ RC technology developed by Kurita. This technology rejuvenates membranes and restores their salt rejection capability, allowing the postponement of membrane replacement until an appropriate budget is available and a suitable opportunity arises. Kuriverter™ RC technology is a much more costeffective CIP (clean-in-place) process compared to replacement costs.



S. Sensing CS

Real-time Wastewater Monitoring & Dosage Control

Kurita's S.Sensing CS technology offers an innovative method for controlling the dosing of wastewater treatment products. This state-of-the-art system utilizes laser-based technology and enables onsite measurement of turbidity between flocs at the inlet of the sedimentation basin. Using this technology, S.Sensing CS allows for the adjustment of primary coagulant dosages without waiting for floc formation and the settlement of flocs in the settling basin.



S. Sensing MX

Modular multi-parameter platform for cooling water monitoring

S. Sensing MX is a new modular analyzer specifically designed for cooling water applications. The modular system allows for the application of S.Sensing MX to nearly any type of water conditioning by using various controllers and analyzers. The selection of modules is based on actual needs. Modules and analyzers are available for active control of the product and measurement of Key Performance Indicators (KPIs). Therefore, S.Sensing MX provides dual security for monitoring the success of water conditioning.







Wastewater Analyses

In our laboratories, wastewater analyses are conducted in compliance with relevant regulations, and consultancy services are provided.

Relevant Regulations

- •Regulation on Water Pollution Control
- •Regulation on the Control of Pollution Caused by Hazardous Substances in Water and the Environment
- •Technical Procedures Communiqué on Wastewater Treatment Plants
- •Regulation on Urban Wastewater Treatment Sensitive and Less Sensitive Water Areas Communiqué
- •Regulation on Urban Wastewater Treatment •Regulation on the Incineration of Waste

Process Water Analyses

In our laboratories;

Detailed analyses of your well, surface, network, steam system, and cooling system waters are performed using titration, spectrophotometric, and colorimetric methods. Following these analyses, we provide consultancy services through reporting processes.



Deposit Analyses

XRF analysis is a powerful method for inorganic elemental analysis: it can tell us which chemical elements make up a material. Using this analysis method in our laboratories, we can provide detailed reports on the deposits that form in your systems. This way, solving existing problems becomes much easier while preventing unnecessary downtimes, production, labor, and energy losses.



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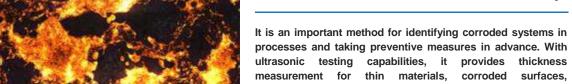




One of the latest innovations in Legionella control is the rapid detection method: the KuriLoc Kit. It provides the first results just 3 hours after sampling and is highly specific. Customers can benefit from the advantages of the KuriLoc rapid detection kit by either purchasing their own devices or using the services of Kurita's accredited laboratories.

Ultrasonic Thickness Measurement Analysis

Laboratory



galvanizing baths, plastics, metals, copper, steel, sheet metal, and aluminum surfaces, without distinction. We have the capability to prepare progress reports and current condition reports for your systems through observation reports during downtime.

Membrane Autopsy Analysis

Membrane autopsy is a great opportunity to analyze a membrane that has undergone chemical degradation or physical damage and to identify the causes of this condition. Additionally, it is essential for determining how to prevent the clogging of new membranes and for maximizing the efficiency of the system. Our company provides support to our clients in this area.





