



# WATER AND WASTEWATER COATINGS

PROTECTION FOR THE MOST CORROSIVE ENVIRONMENTS



left: Hutchinson Water Treatment Plant  
Hutchinson, KS



## AT THE FOREFRONT OF WATER & WASTEWATER COATINGS TECHNOLOGY

Tnemec has set the benchmark for water and wastewater coating systems. With a long history of innovation and new product development, the company offers specially formulated, high-performance products that shield against the most aggressive environments. Tnemec even helped develop a Severe Wastewater Analysis Test (S.W.A.T.) to improve industry standards of performance by holding products to higher quality measures.

Water and wastewater coatings and linings are used to protect facility infrastructure from corrosion, abrasion, ultra-violet (UV) light and extremely harsh chemical and gaseous environments, such as those found in sewer headspaces.

With a combination of technology and teamwork, Tnemec has extended the lifecycle of water and wastewater projects across the world.

### HIGH WATER MARKS

“Tnemec’s in-depth understanding of the key issues that affect today’s water and wastewater infrastructure, their dedication to continually improve and develop new coating systems, and the technical understanding of their sales team is what makes working with Tnemec a winning combination.”

—BRAD ERVANS  
Industrial Manager  
Service Painting of Florida

right: City of Litchfield Water Treatment Plant  
Litchfield, IL





left: 91st Avenue Wastewater Treatment Plant  
Tolleson, AZ

## PERFORMANCE DRIVEN BY INNOVATION AND PROVEN BY IN-DEPTH EXAMINATION

For more than 50 years, Tnemec has been the most trusted name in coatings for water and wastewater applications. A unique culture of innovation has fostered a series of the highest performing products in the industry.

Tnemec understands the continually changing conditions that water and wastewater facilities must withstand. The company simulates those environments and runs extensive tests of coatings and linings to

ensure the systems perform at their optimum level in real-world conditions and situations.

All Tnemec coatings and linings are the result of extensive research, rigorous testing and thorough evaluation. In addition, all are backed by extraordinary customer service and the most experienced coatings consultants in the industry.

### APPLAUSE FOR SUPPORTING CAST

"The support I have received from our local Tnemec coatings consultant for the past 18 years, along with Tnemec's excellent product performance, has been a large part of the success of our company."

-CLIFF DYKES  
General Manager  
Crom Corporation

### RELIABLE RESOURCE

"We have worked with Tnemec since 1996. The company is continually the top performer in the industry when it comes to wastewater coatings. Whenever you talk to engineers about coatings, they know and trust Tnemec products."

-DAVE PARADA  
Owner/Vice President & Superintendent  
Parada Painting



**TEST OF TIME** - For nearly half a century, the 91st Avenue Wastewater Treatment Plant in Tolleson, AZ, has relied on Tnemec's arsenal of protective coatings. With a capacity of 204-million gallons per day, the plant disinfects wastewater from residential and business sources through a series of physical, biological and chemical treatment operations. The diverse list of Tnemec coatings applied throughout the plant's vast infrastructure includes a variety of epoxy systems, epoxy mortars, polyurethanes, acrylics and StrataShield floor toppings.

## DEPENDABLE TECHNICAL SUPPORT AND CONFIDENCE-INSPIRING EXPERTISE

Tnemec's performance-driven coatings are backed by unequalled technical support. With an average of 17 years of experience in the coatings industry, Tnemec coatings consultants have the knowledge to assist customers with customized system recommendations that account for the challenges and realities of water and wastewater treatment and collection, as well as the unique environmental conditions in specific regions.

Their unequalled experience ensures optimal, long-lasting results. In addition, Tnemec's technical service

staff provides additional support by sharing their expertise in product application, analysis and coatings evaluations. When they're not in the field, technical service personnel are actively involved in industry organizations or working closely with Tnemec's research and development team on next-generation solutions.

left: City of Litchfield Water Treatment Plant  
Litchfield, IL

right: Hutchinson Water Treatment Plant  
Hutchinson, KS





left: City of Gainesville Water Treatment Plant  
Gainesville, GA

## VARIED APPLICATIONS, CONSISTENT RESULTS

Tnemec coatings provide superior protection against corrosion, abrasion, chemicals, humidity, thermal cycling, immersion, and ultra-violet (UV) light. These water and wastewater coatings and linings have increased the lifespan of hundreds of projects. They are ideal for steel and concrete, as well as a variety of non-ferrous metals, ductile/cast iron and masonry.

### COATINGS FOR CORROSION RESISTANCE

Tnemec's vast line of high-performance coatings provides protection and asset-value retention, while preserving the aesthetic appearance for process identification. Tnemec coatings include Endura-Shield®, HydroFlon®, zinc-rich coatings such as Tneme-Zinc, and Aerolon®, a fluid-applied thermal insulating coating used to reduce condensation and corrosion under insulation (CUI). These products offer long-term durability and resistance to the severe effects of weathering.

### LININGS FOR DURABILITY

For projects in need of durable linings, Tnemec offers many effective solutions, including Epoxoline®, Pota-Pox®, Elasto-Shield®, and Perma-Shield®. Select Tnemec linings are suitable for immersion and for use in potable water. Many are also formulated to withstand chemical contact and perform in a variety of environments.

## HERE'S WHERE TNE MEC SPECIALIZED PRODUCTS ARE AT THEIR BEST

### HEADWORKS

- Screening structures
- Lift structures
- Grit chambers
- Influent channels
- Flow-measurement facilities
- Equalization tanks

### SLUDGE TREATMENT

- Dewatering
- Sludge holding
- Digesters

### COLLECTION

- Gravity sewers
- Sewer interceptors
- Lift stations
- Manholes

### PRIMARY TREATMENT

- Covered clarifiers
- Anoxic basins

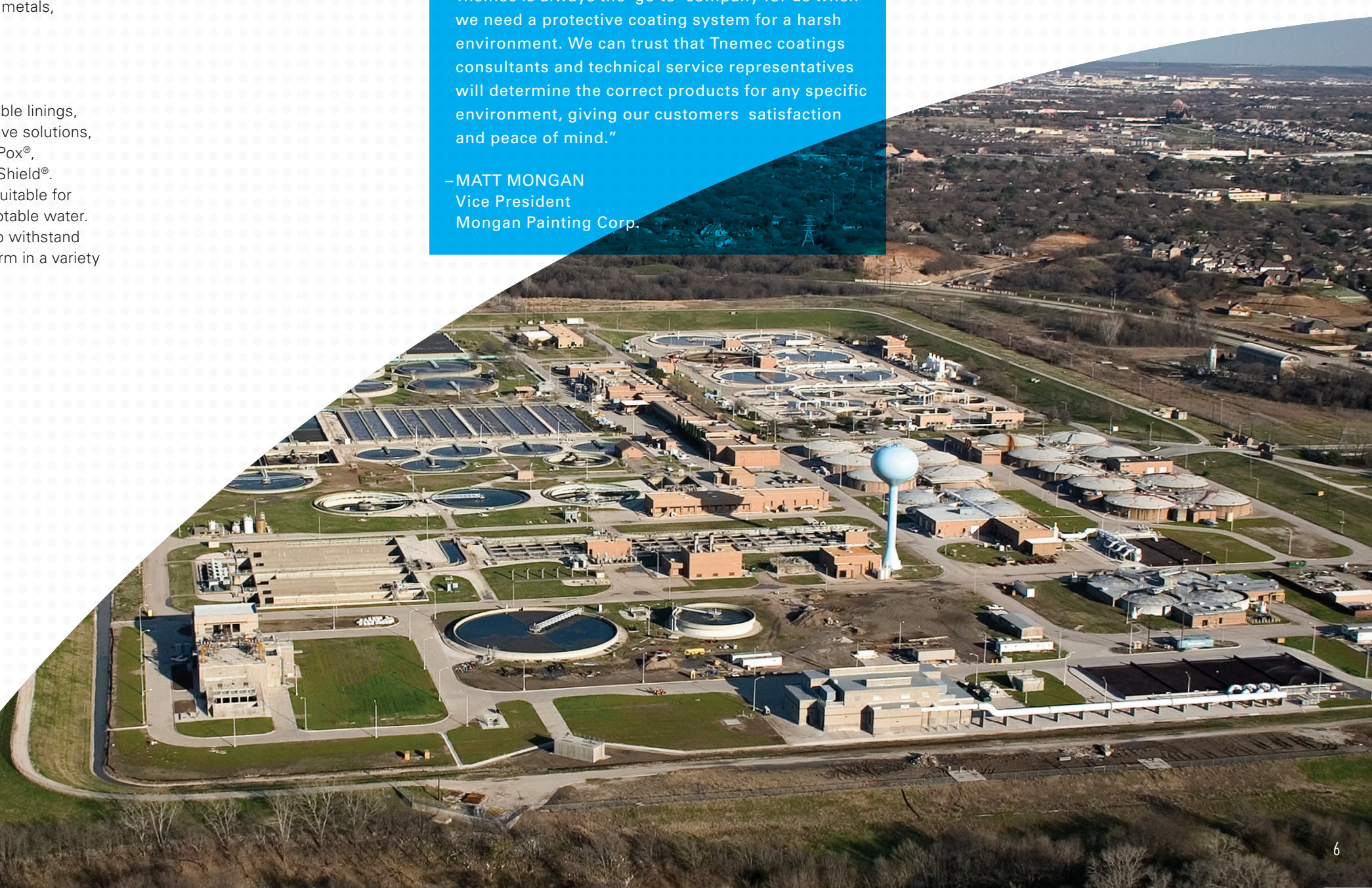


**TEST OF TIME** · In 2004, The City of Moline, Illinois, looked to make improvements to its water treatment plant, including updating or installing new chemical storage, feed, and filtration systems. With a long history of using Tnemec products, the project team requested high-performance coatings from the same manufacturer again, utilizing NSF/ANSI Std. 61 certified epoxies and a corrosion-resistant polyurethane for clarifiers, piping, valves and support structures. The plant's coating systems continue to perform more than 10 years later and the City continues to specify Tnemec products for its water supply system and water storage tanks.

### THE RIGHT CHOICE

"Tnemec is always the 'go to' company for us when we need a protective coating system for a harsh environment. We can trust that Tnemec coatings consultants and technical service representatives will determine the correct products for any specific environment, giving our customers satisfaction and peace of mind."

—MATT MONGAN  
Vice President  
Mongan Painting Corp.



# SUPERIOR PRODUCTS FOR WATER TREATMENT FACILITIES

As a recognized leader in the potable water treatment industry, Tnemec's user-friendly, easy-to-apply epoxy and polyurethane technologies offer outstanding corrosion protection for areas such as piping, pumps, valves and filter basins.

Tnemec coating systems represent the most comprehensive NSF/ANSI Std. 61 selection in the water treatment

industry, and several options meet the requirements of American Water Works Association (AWWA) inside and outside systems. Specific coatings also meet AWWA C210 and C222 standards for the interior and exterior of steel water pipelines.

## PERMA-NENT IMPRESSION

"Perma-Shield FR sprayed beautifully, leading to a more controlled and productive project. Our production with the coating system was better than expected... I certainly will be looking for ways to use these products."

— PHIL GRAY  
Co-Owner  
Gray & Company, Inc.

left: Water Treatment Plant  
Scottsdale, AZ

## PERMA-SHIELD SOLUTIONS

By protecting against corrosion, Perma-Shield products extend maintenance/repair life cycles.

**PERMA-SHIELD H<sub>2</sub>S**  
an aggregate-reinforced epoxy mortar

**PERMA-GLAZE**  
a multi-purpose thick-film epoxy liner

**PERMA-SHIELD FR**  
a fiberglass-reinforced, spray-applied epoxy liner

**PERMA-SHIELD PL**  
a ceramic epoxy lining for steel and ductile iron pipe

above: City of Coachella Wastewater Treatment Plant  
Coachella, CA

# INDUSTRY-LEADING WASTEWATER PRODUCTS OUTPERFORM THE REST

Tnemec has led all others in creating new, innovative and effective coatings for wastewater protection. After testing and screening hundreds of formulations, Tnemec developed Perma-Shield, the most advanced in liquid-applied lining technology for severe wastewater environments.

As changes in wastewater have led to higher levels of corrosion, Tnemec Perma-Shield performance stands

out even more. Intensive tests were conducted to demonstrate Perma-Shield's advantage over older coating technologies and many newer lining products. Perma-Shield was proven to withstand wastewater gas permeation and biogenic sulfide corrosion, as well as resist abrasion and thermal cycling. In addition, the product line offers long-term life cycle benefits of increased film thickness and rapid return to service after application.

## SEVERE WASTEWATER ANALYSIS TEST (S.W.A.T.)

Tnemec's Severe Wastewater Analysis Test (S.W.A.T.), an accelerated wastewater corrosion-testing program, was developed to evaluate the level of coating degradation after exposure to a simulated headspace environment. Information obtained from liquid and vapor testing is extremely valuable, giving specifiers quantifiable data, which demonstrates the performance of various products and reassures owners that their assets will receive long-term protection. In 2013, ASTM International recognized the test's value by standardizing the procedure and issuing ASTM G210-13: Standard Practice for Operating the Severe Wastewater Analysis Testing Apparatus.



above: Water Treatment Plant  
Scottsdale, AZ



**TEST OF TIME** - The city of Post Falls, ID, had serious biogenic corrosion problems in its 3.4-million gallons per day (mgd) wastewater treatment facility. Nearly 20 percent of the 8-inch headworks' concrete surfaces had been degraded, and large chunks of concrete were rapidly falling off. Tnemec's Perma-Shield system was used to completely restore the facility, which has performed successfully for more than twelve years.

below: 91st Avenue Wastewater Treatment Plant  
Tolleson, AZ



right: Buckman Diversion CRC-1 Chemical Area  
Santa Fe, NM

## REINFORCED PROTECTION WITHSTANDS POTENTIAL HAZARDS AND HEAVY WEAR

Tnemec offers reinforced coating systems for both primary and secondary containment. Chemical-resistant systems protect structures from additives used to remove undesirable substances from water and wastewater. For secondary containment, Tnemec offers fiberglass mat reinforced epoxy, novolac, and vinyl ester systems that protect concrete against impact, abrasion, corrosion and chemical contact.

Prior to the application of high-performance coatings and linings, it is imperative to resurface concrete to

properly prepare the substrate for top coating. Tnemec offers cementitious resurfacing materials, such as MortarClad™ and MortarCrete®, to fill imperfections in new concrete and restore existing concrete.

Tnemec's high-performance coatings can provide protective coverage and aesthetic enhancement for other facility areas as well. Buildings, office floors, walls and high-traffic walkways can all benefit from Tnemec's extensive offering of interior and exterior coatings.

## ENVIRONMENTAL ADVANCEMENTS PROTECT AGAINST POLLUTION

When it comes to environmental considerations, Tnemec leads the industry by offering products that improve performance standards while also reducing environmental impact. The company offers coatings and linings that comply with strict regulatory limits for volatile organic compounds (VOCs) and hazardous

air pollutants (HAPs), as well as a variety of products that are compliant in all air districts in the United States and Canada. The availability of low-VOC industrial coatings is especially beneficial to projects that include Leadership in Energy and Environmental Design (LEED) building requirements.

front cover: Scottsdale Water Treatment Plant  
Scottsdale, AZ



*INNOVATION IN EVERY COAT™*

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