# DUTCHWERK MIDDLE EAST LLC



Total Integrity Management & Engineering Services Netherlands - England - Mexico - UAE - India

# We Provide Engineered Solutions to **Protect Defend and Preserve** vour Assets

# About us

Dutchwerk Middle East was established in 2019 in the UAE through a consortium of companies from the Netherlands, England, Mexico, Middle East, and India. It is in the Industrial Area of Musaffah, Abu Dhabi, UAE, strategically positioned as a hub for industrialized activities, especially in the oil and gas sector, utilities, marine industry, power energy, and EPC's.

Dutchwerk Middle East is dedicated to delivering high-quality of products and engineered service solutions for asset integrity management, by ensuring the efficient operation, long-term reliability and safety of critical infrastructure to our clients in the Middle East region, GCC and South Asia.



To be the leading solutions provider of innovative technology and asset Integrity management and engineering services in the oil and gas, marine and utilities industry, recognised for the integrity of our people, the ethics of our business practices and the quality of our services



To develop lasting client relationship by providing exceptional stakeholder value through an efficient asset management program that ensures reliability, technical integrity, safety, protection and regulatory compliance

Perfection Anytime

What

Sets Us

Apart

Core for the

Envirnome

Quality

∆ssured

nnovation

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Tehnical

Support

## **Key Features**

- A Our top priority is always safety with quality
- Go Carbon Neutral, Emission free products and services
- Skilled and competent engineers using cutting-edge techniques
- Driven by European technology and supported by gasuine
- Strong knowledge and provisions for turnkey services
- Provide Total PIMS package with support and field work expert
- We enhance asset performance and operational effectiveness
- We reduce risk and minimize downtime and reduce operational cost





# The place where you'll find the perfect solutions

Dutchwerk<sup>™</sup> offers a unique combination of products and services, along with innovative use of technologies, delivering:

#### Products MONTIPOWER STRONGPIPE Merit Engineered Composite Solutions Surface Preparation Structural Repair Clamps | ALITER Technologies | Subsea Internal Weld Sleeves Merit-Epoxy Grouted Pipeline Liquid Applied Coatings Services Surface Preparation **Pipeline Emergency** Visco-elastic Corrosion Prevention System Repair Clamps | Solutions Renair Field Joint Coating and Insulation Services Merit-Epoxy Grouted Clamps High Temperature and Chemical Structural Resistance Coatings | Repair Clamps Metal repair composites corrosion Inhibitors Pipe repair Kit SP **MTEST** Online QPCR Test Kit Spiral Shield - Conductor/ FlexiGuide for microbial Induced Riser Repair and Flexi Guide - Conductor PIG PRO Corrosion Strengthening Stabilizing and Protection System | CK 68-Subsea Intelligent pigging Marine Growth solution Removal Tool

# **Services**

- Asset Integrity Management
- Cathodic Protection Services
- Corrosion Prevention, Monitoring & Inspection Services
- Hot Tapping, Online & Offline Corrosion Coupon Retrieval
- Oil Field Microbiology & Corrosion / Erosion Data Analysis
- Onshore & Offshore Diving, Inspection & Survey Services
- Onshore, Offshore, Subsea Oil & Gas Field Maintenance Services
- Pipeline Integrity Management Service (PIMS)
- Emergency Pipeline Repairs Services (EPRS)
- Above Ground Storage Tank Repairs, Reinforcement & Rehabilitation

# Industries



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Office No-33, M44, Musaffah, Abu Dhabi, UAE

# BRISTLE BLASTING SOLUTIONS

Power Tools and Machines

# ABSOLUTELY GRÜNDLICH

#### QUALITY MADE IN GERMANY SINCE 1987

Discover the power of our specialized powertools. Innovative surface preparation solution to achieve blasting quality without grit on onshore or offshore, whether removing, cleaning or profiling. Montipower's Innovative blasting technology ensures the best possibe bond. The world's best coating and sealants deserve the best surface preparation.

Our surface preparation grades comparable with Sa2 1/2 [SSPC-SP 10 / NACE No.2] to Sa3 [SSPC-SP5/NACE No.1] with roughness level of upto 120µm [4.72 mil] Rz.

# **BRISTLE BLASTING**

THE BRISTLE BLASTER OFFERS DISTINCT ADVANTAGES OVER CONVENTIONAL SURFACE PREPARATION METHODS AND WILL YIELD SUPERIOR RESULTS-WITH FAR LESS TIME AND EFFORT

- Removes corrosion, coatings, mill scale and other contaminants
   without removing healthy material
  - without grinding or polishing
- Generates anchor profiles ranging from 2.5 to 3.3 mil (65-85 µm Rz) including on weld seams, edges, around bolts and on surface irregularities
- Cleans and profiles quickly and economically using safe and durable Bristle Blaster Belts; eliminating the need for costly abrasive blast equipment.
- > Suitable for spot repairs as well as larger areas where other processes are prohibitive; does not use / produce hazardous material
- Restores corroded and pitted surfaces to near-white metal or white metal appearance
- Improves integrity of treated surface; generates compressive residual stress for crack growth resistance, improved fatigue life and improved corrosion resistance.
- The bristle Blaster Pneumatic is ATEX-approved and includes Dust control
- > Reduces surface preparation time by 75%



PORT TO INNOVATE TO EFFICIENCY TO BE TRUSTED TO WORK SAFE TO CARE ABOUT NATURE

## RED IS THE NEW GREEN

The bristle blasting process is eco-friendly in that, it does not use or generate hazrdous Waste, thereby "greening" industry's approach to corrosion removal and surface preparation of steel components.

# **INDUSTRIES**



## BLASTING WITHOUT GRIT



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# THE NEW ULTIMATE SERIES - MORE TORQUE & DURABLE BRISTLE BLASTER®

POWER TO IMPROVE SURFACE PROTECTION





# WE COAT THE WORLD

### Time For Change

Allter's founders ore professionals from both the traditional and innovative coating industries. Allter is driven by ideals. It's time for a change, both in durability and sustainability. Together, the developers at Allter have over 160 years of collective experience in the sector. We are firmly convinced that change is possible, and that a new, different approach to future-proof total solutions is what is needed.

#### **Our Alternative Solutions**

Allter is an alternative coating brand offering unique solutions to under- and above ground steel assets. Allter sets a new standard for future-oriented thinking in the coating industry when it comes to product safety during the manufacturing, application and in service.

#### The Alternate For Steel Protection

Allter focuses on emission-free corrosion prevention for durable assets. Allter is an alternative coating brand comprising of 5 unique divisions offering unique solutions to under and above ground steel assets such as pipelines, risers, flanges, valves, storage tanks. Allter focuses on emission-free corrosion prevention for durable assets.



## **Biomimicry By Design**

Allter's emission-free and chemical inertia reflects some of our company's main priorities. We consider it the duty of the inhabitants to take care of this planet. Allter<sup>®</sup> aims to contribute to better, safe protection of the environment where pipework, joints and installations ore concerned.





STRONGPIP

ACUUM-CONTROLLED COMPOSITE PIPE REPAIR & REINFORCEMENT

# PIPE REINFORCEMENT VACUUM CONTROL

THE WORLD'S FIRST VACUUM WET WRAP COMPOSITE SYSTEM

#### **Our Product and Services**

Strongpipe® Engineered Composite Repairs Strongpipe® Internal Weld Sleeves Strongpipe® Structural Repair Clamps Strongpipe® Pipeline Emergency Repair Clamps



Our engineered composite repair technology provides complete structural repair and reinforcement solutions that are safe, flexible, practical, and cost-effective. This one-of-a-kind composite system consists of layers of reinforcing steel wire and fiber-reinforced polymer and is designed to provide full structural repairs and upgrades to pipe segments. Our system is applicable to all pipeline types.

#### **Epoxy Grouted Structural Repair Clamps**

Strongpipe® Vacuum Epoxy Reinforcement and Glass Shield Wrapping Systems use a more optimal reinforced clamp structure for onsite vacuum installation. Instead of using the traditional perfusion process, which injects the adhesive with positive pressure, the process uses the negative pressure created by vacuuming to perfuse the epoxy. This enhancement provides the system with much more consistent performance. The vacuum pump will be used in the field to suck the evenly mixed high strength epoxy. Composite material has good adhesion and compressive strength. Once cured, the pipeline and reinforcement will become a single one-piece structure and the stress on the pipelines will be effectively shared ensuring reliable reinforcement performance.





#### Strongpipe<sup>®</sup> S Glass Fiber

All our repairs are designed in line with ISO 24817 ASME PCC 2 standards and can be warranted for 20 years design life, thus extending the life of critical infrastructure.

S-glass fiberglass is a high performance alternative to standard fiberglass E-glass. It is stronger and stiffer with a comparable density. S-glass Fiberglass is more expensive than E-glass but is stll cheaper than Carbon Fiber. It is a good alternative for laminates requiring high strength.

#### Strongpipe<sup>®</sup> V-Wrap<sup>™</sup> Carbon Fiber

#### System for Pipeline Strengthening

Strongpipe<sup>®</sup> V-Wrap<sup>™</sup> Carbon Fiber structural is α strengthening system for the restoration and renewal of concreate, metallic and polymer-based pipelines. The system has been tested and meets or exceeds durability requirements (ICC-ES) necessary to provide the desired service life for pipeline structures.



# Strongpipe<sup>®</sup> Glass Shield

Glass shield MC710-H is widely applied in industry and hos gained popularity because it combines ease of use and high productivity with good mechanical properties. Being one of the best consumables in this group, it reflects typical advantages of metal cored wires. Metal cored wire, such as Glass shield MC710-H, is a very good solution for thin sheet material, and is also one of the best solutions for semi automatic welding of multi poss welds and thicker plates. Metal cored wire, however, is typically not considered a low-fume generating welding process. The FER for the MCAW (M21) process is typically lower than the FER of the GMAW (CO.) process and higher than the FER of the GMAW [Pulse] process.

# **Epoxy Grouted Structural Repair Clamps**

The Epoxy Sleeve Repair System is comprised of two-half steel sleeves. The sleeves cover a calculated area of the pipe that contains damage and is oversized in relation to the pipeline's outer diameter, thus providing an annulus between the steel sleeve and the pipeline. The steel sleeve halves and segments are then bolted together.

Any pipe subjected to external metal loss internal or leak requires repair and maintenance. The Epoxy Sleeve Repair System was designed to repair and strengthen the risers or pipelines with:

- External damage due to metal loss
- Internal damage due to metal loss
- External damage due to dent/impact
- Leaking pipeline



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Sustainability Through Responsibilty

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# EPOXY SLEEVE REPAIR SYSTEM

Merit –Epoxy Grouted Pipeline Repair Clamps Merit –Epoxy Grouted Structural Repair Clamps

Epoxy Sleeve Repair System has been designed as leak containment and strengthening repair system for pipeline defects. The repair system consists of two half steel sleeves, extending approximately one and a half diameter, from both ends of the through defect features. The sleeve halves are oversized in relation to the pipeline outer diameter, thus providing an annulus of approximately 25 mm between the internal sleeve and the pipeline. The steel sleeve halves and segments are bolted together.

Installed over the pipeline, the ends of the sleeve are 'capped' with end flanges. Through pre-installed injection ports, the annulus is grouted with a special, low exothermic, high strength load bearing slow cur¬ing epoxy resin. This epoxy resin will be used as pressure containment as well as load bearing system.







## Best Available Technology in Cleaning Application & Suitability for Purpose

SPIRAL SHIELD is a protection and repair system primarily designed to effectively mitigate corrosion problems at the splash zone areas of risers, conductors, caissons and piles. Due to the constant repetitive pounding of the waves in the splash zone area where there is a high oxygen content, this causes significant corrosion to offshore structures. The splash zone area presents unique repair challenges such as:-

- Application Method
- Strengthening Ability
- Further Corrosion Prevention
- Application Life Span

Repair System designed for online installation for Pipelines, Risers, Conductors and Caissons





Spiral Shield Titan Spiral Shield Pile Pro





**Spiral Shield** 

Forte





SPIRAL SHIELD AS COST EFFECTIVE REPAIR SYSTEM FOR TOPSIDE AND SUBSEA APPLICATION



# What is SPIRAL SHIELD?

SPIRAL SHIELD is a protection and repair system that effectively mitigates corrosion problems at the splash-zone area of risers, conductors, caissons and piles.

Developed by experts with proven experience in the industry, SPIRAL SHIELD addresses unique repair challenges presented in the splash-zone area:

- Application method
- Application life span
- Strengthening ability
- Further corrosion prevention

# Why SPIRAL SHIELD?

- Cost-effective, innovative surface preparation technology
- Cleans to required standards prior to installation.
- Fast, efficient installation
- Lightweight & highly portable
- May be utilized against leaks or holes.

# DESCRIPTION OF SPIRAL SHIELD

SPIRAL SHIELD consists of a reinforced Polyethylene shell that is mechanically wound around the pipe, forming a solid structure into which specialized grout is injected.

The system can be installed without divers, up to a depth of 10 metres below sea level. Typical installations are for vertical elements, however horizontal applications are possible.

The finished installation strengthens the structure and isolates it from the external environment, hence:

- Further corrosion is prevented.
- Increased abrasion and impact protection
- Utilizable where thermal protection is required.



FIGURE 1

# TECHNICAL SPECIFICATIONS

The current version of SPIRAL SHIELD system has the following Mechanical Properties:

# SPIRAL SHIELD COMPONENTS

The typical SPIRAL SHIELD system will consist of major components such as below:

- Polyethylene Strip (Profile 100 and 140)
- High Strength Epoxy Grout or Cementitious Grout (Subject to application)
- Hoop Reinforcement (Where strengthening is required)

A typical view of the proposed repair system is shown in Figure 1.0. The repair system consists of spirally interlocking Poly Ethylene strip, in situ, around the pipeline to form a shell with a predetermined diameter.

The shell is oversized in relation to the pipeline outer diameter thus providing an annulus between an internal sleeve and the

Repair Size	: Dia. from 6 in. to 40 in		
Repair Length	: Up to 10 meter		
	(subject to design calculation		
	and location of defect)		
Repair Thickness	: 25-40	mm	
Tensile Strength (ASTM D3039)		: 980	MPa
Compressive Strength (ASTM D695-02 A)	L.	: > 80	MPa
Hardness		: > 70	Shore D
(ASTM D2240)			
Glass Transition Temp (ISO 11357-2)	oerature	: 70 – 8	30 ° C
Lap Shear Strength to (ASTM D3165-7)	Steel	: 9.3	MPa
Pull-Off Strength to St (ASTM D4541)	eel	: 5.9	MPa

# **Application Images**





We Coat the World The Alternate Way

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# **FlexiGuide**<sup>™</sup>

**Conductor Guide Stabilization System** 

# Stabilize | Centralize | Protect

Flexiguide<sup>™</sup> is a conductor guide stabilization system, specifically engineered to stabilize, centralize and protect the conductor and the conductor guide form corrosion, fretting and other waveinduced damage. The system is designed to suit topside offshore application and fit for purpose.

The system consists of a special formulated elastomeric compound flexible polyurethene casting material (FPCM), top cap and may be installed with the optional reinforced panels (when allowance of vertical movement of the conductor is required).

The system, if installed with optional reinforced panels, will permit any vertical movement of the conductor without damaging the conductor.





# Marine fouling Removal Tool

The Marine fouling Removal Tool is particularly designed for the removal of Marine Growth on Conductors and Risers.

Marine Growth on Offshore Structures has an effect on:

- The Hydrodynamics of the member in terms of diameter and roughness, Propagation of Corrosion, Inspect ability, Overall and increase of mass.
- With the tool we have designed a prupose built tool which can be used without the need for divers to remove marine growth in splash zones and upto 3 meters below mean sea level









# WE OFFER ENGINEERED SOLUTIONS TO

PROTECT DEFEND & PRESERVE

YOUR ASSETS





PROTECT ∝ DEFEND & ⊃ PRESERVE □ ASSETS ≻



Netherlands - England - Mexico - UAE - India

# Corrosion Prevention, Inspection and Monitoring Services

Dutchwerk Middle East is a global leader in corrosion solutions for oil equipment. We offer tailored services for prevention, inspection, and monitoring. We assure to safeguard your assets with expertise and excellence to ensure long-lasting oil equipment integrity.

Our comprehensive range of services encompasses:

- Asset Integrity Management
- Cathodic Protection Services
- Internal Corrosion Monitoring services
- Oil Field Microbiology & Corrosion / Erosion Data Analysis
- Onshore & Offshore Diving, Inspection & Survey Services
- Onshore, Offshore, Subsea Oil & Gas Field Maintenance Services

## **Cathodic Protection**

Cathodic protection systems (CP) are designed to prevent corrosion from damaging the assets. Cathodic Protection is an electrochemical method of corrosion prevention which can be applied to metals exposed to conductive environments. We provide a wide range of cathodic protection services and solutions that help prevent and control corrosion as a part of asset integrity management.

- Galvanic/Sacrificial Anode Cathodic Protection System
- Impressed Current Cathodic Protection System

#### **Our Services includes**

Auditing | Monitoring | Maintenance | Material

- Design and Engineering
- CP Installation & Testing Procedures
- Commissioning & Execution methodology
- Cathodic Protection System Audit
- Rehabilitation of existing CP system
- Existing CP System Survey and Investigation

#### Application

Pipelines | Tank Farms | Well Casing | Offshore Platforms | Steel Structures | Ship Hull | Jetty | Piles | Harbours etc.



### **Corrosion Survey**



We have a team of Certified Corrosion Specialists who are well experienced in different types of Survey Techniques and Tests involved in Cathodic Protection Performance Analysis and Coating Evaluation Tests, such as:

Drop Cell Surveys Services

- AC/DC Interference Survey & Mitigations
- Soil Resistivity Survey and Analysis
- Close Interval Potential Survey (CIPL)
- Direct Current Voltage Gradient (DCVG)
- Internal Corrosion Direct Assessment (ICDA)
- External Corrosion Direct Assessment (ECDA)
- Offshore Pipelines Corrosion Surveys

# Internal Corrosion Monitoring

Internal corrosion is a gradual process that causes the surface of a metal substrate to break down or degenerate. This eventually leads to material loss in the form of pinhole leakage, cracks, and splitting.

General corrosion, pitting corrosion, microbiological corrosion, and fluid corrosively are the four types of material deterioration that combine to cause internal corrosion. The energy released when a metal converts to corrosion products is the driving force for its corrosion. Corrosion cannot be stopped; it can only be slowed down.

We provide the following range of services and solutions that help prevent and control internal corrosion.

- Hot Tapping Services
- Corrosion Coupon Installation and Retrieval •
- Laboratory Analysis of Coupons and Testing

#### **Corrosion Inhibitors**

Our VCI System is used in protecting tank bottoms against corrosion.

VCI For Chime Feed | VCI Mastic Sealant | VCI For Bottom Plate Injection | VCI For Underside Injection

# **MTEST**

# MICR On field QPCR Measurements

DIY - Do it yourself DNA Based testing for Microbial influenced Corrosion, biofouling, fuel auglity,

- Detection of Bacteria/Archaea < 2 hours without a lab.
- No cooling required. Samples can be stored > 1 week at ambient temperature.
- Easy to operate.

#### Mobile qPCR Three-step analysis:



#### Mobile gPCR The benefits:

- Fast results (less than 1,5 hr)
- Cheap & simple to operate.
- No difficult sample logistics needed.
- No Refrigeration of reagents needed

### **Targets Available:**

Sulphate Reducing organism | Sulphur Oxidizing | Iron Reducing | Iron oxidizing | General bacteria | General archaea | Methanogens | MicH

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