



A Step Ahead in Chemical Cleaning

See the Difference



# Company Profile

Corodex Marine, part of Concorde - Corodex Group, is one of the leading company in water treatment chemicals, marine and industrial cleaning products and services. Our team is highly qualified professionals executing various projects in cleaning different heat exchangers and performing pre-commissioning, pickling and passivation for large heat exchangers at large desalination units, piping cleaning like condensate return piping, and cleaning and preserving all types of boilers and waterborne systems.

Chemical cleaning is an art exercised by people who thoroughly know how different materials and contaminations work in a reactive solvent.

At Corodex we know how to remove the worst contaminations from the most difficult system and material configurations.

We clean and preserve all types of boilers and waterborne systems regardless of the size or type of unit and contamination to be removed.

Our cleaning and preservation processes comply with internationally accepted and proven standards, and are done under the supervision of highly qualified and experienced engineers.

Concorde - Corodex Group established in 1974, is one of the Pioneers in Middle East in for water treatment marine cleaning products and services, firefighting equipment and services, sewage treatment plants, reverse osmosis systems and back up service, environmental specialty adviser, as well as the provider of chemical and stainless steel cleaning.

CCG has diversified within the last 30 years in many fields and in order to provide a high standard quality has placed the related products and services under different companies.

All CCG companies are registered according to the local and International standards of quality, environmental, occupational, health and safety management system and certified as ISO 9001;2008, ISO 14000:2004 & QHSAS 18001:2007.

## Marine Products

- Chemicals for Marine Water Treatment
- Fuel Oil Treatment and Additives
- Cleaning and Maintenance Chemicals
- Anti Corrosion Coatings
- Antifouling Chemicals for Sea Water Systems
- Gases and Refrigerants
- Welding and Cutting Equipment
- Chemical Dosing Systems for Water Treatment
- Test sets / Reagents and Glass Ware
- Firefighting and Safety Products / Services
- Chemical cleaning of boilers and other systems on board
- Pickling and Passivation of S.S. Tanks and other Systems

# Table of Contents

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Marine and Industrial Chemical Cleaning Services	4
<b>Project Profiles UAE/Oman:</b>	
Chemical Cleaning of Pipelines / Boilers	5
Oil Flushing & Pressure Testing	5
<b>Project Profiles Qatar:</b>	
Chemical Cleaning of Pipelines / Boilers	6
Pickling and Passivation of Evaporators / Pipes / Spools	8
Chilled Water Systems Chemical Flushing	9
Potable Water Sterilization	9
<b>Technical Information</b>	10
Avesta	13
ACO	13
Complete Range of Marine Products and Services	14



# Marine and Industrial Chemical Cleaning Services

- Pickling and passivation services
- Chemical cleaning for marine & industrial systems
- Degassing for the vessels prior to hot works
- Disinfection for drinking water tanks
- Pressure/Leak testing
- Air testing
- Nitrogen/Helium leak testing
- Oil flushing
- High speed water flushing
- Steam Blowing
- Retro Jetting and Flushing
- Hydro testing
- Pigging services
- Dipping of stainless steel material
- Nitrogen purging and preservation
- Inspection services
- Equipment rental for all kinds of chemical cleaning
- Pressure testing, flushing and retro jetting services
- Chemicals for marine and industrial
- Welding equipment, gases and safety services



# Project Profiles UAE/Oman

## Chemical Cleaning of Pipelines / Boilers

### DEWA Boiler Pipe lines

Scope of work: Pre-commission cleaning of boiler pipe lines

Client: ETA / Hyundai / DEWA

Location: DEWA L Station, Jebel Ali



### SUR IPP Oman

Scope of work: Chemical Cleaning of HRSG boilers

Client: Petron / Daewoo

Location: Sur, Oman



## Oil Flushing & Pressure Testing

### EMAL Aluminum Company Ltd

Scope of work: Pressure Testing & Oil Flushing for hydraulic piping for 4 furnaces

Client: Fives Solios / EMAL

Location: Taweelah, Abu Dhabi



### SUR IPP Oman

Scope of work: Oil flushing of gas turbine lube oil lines

Client: Petron / Daewoo

Location: Sur, Oman



# Project Profiles Qatar

## Chemical Cleaning of Pipelines / Boilers

Qatalum - Qatar Aluminum

Scope of work: Alumina removal and chemical cleaning of carbon steel pipes

Client: DEBAJ / Qatalum

Location: Qatalum - Mesaied, Qatar



Ras Abu Fontas Desalination Plant, QEWC

Scope of work: Chemical cleaning of HRSG

Client: TTCL / Nooter Eriksen

Location: RAF A2 desalination Project, Qatar



Shell GTL - Qatar

Scope of work: Chemical Cleaning of seamless CS pipelines

Client: Shell GTL / Madina Group

Location: RLIC, Qatar



## Kentz Engineering

Scope of work: Medical Gas line degreasing and cleaning for Sidra hospital

Client: KENTZ / KEO / ASTAD / CCC

Location: Sidra Hospital, Qatar Foundation



## Maersk Oil Qatar, MOQ

Scope of work: Pre-commissioning of carbon steel pipes

Client: Madina Group / Maersk Oil Qatar

Location: IGTC Cleaning Station



## Ras Abu Fontas Desalination Plant, QEWC

Scope of work: Chemical cleaning of steam lines

Client: TTCL

Location: RAF A2 desalination Project, Qatar



## Pickling & Passivation of Evaporators / Pipes / Spools

### Ras Abu Fontas Desalination Plant, QEWC

**Scope of work:** Pickling & Passivation of Mitsubishi evaporation units - 2 Nos  
(Surface area is 20,000/m<sup>2</sup> each unit)

**Client:** Belleli / Mitsubishi / Hitachi

**Location:** Ras Abu Fontas Power and desalination plant, Qatar



### Qatar Solar Project, RLIC - Qatar

**Scope of work:** Pickling & Passivation of different size pipes  
(Total length - 15 Kilometers)

**Client:** QStec / Madina Group

**Location:** RLIC, Qatar



### NDSQ & N/KOM - Qatar

**Scope of work:** Pickling & Passivation of different stainless steel pipes

**Client:** Archirodon / Nakilat

**Location:** Ras Laffan Port, Qatar



### Qatar Solar Project, RLIC - Qatar

**Scope of work:** Pickling & Passivation of different size pipes  
(Total length - 7 Kilometers)

**Client:** SITech / DEBAJ Industrial services

**Location:** RLIC, Qatar

## Chilled Water Systems Chemical Flushing (Open / Closed Circuits)

### The Pearl Qatar

**Scope of work:** Chemical flushing and water treatment of chilled water system - 4 Nos  
**Client:** Structural Qatar / EHAF  
**Location:** The Pearl, Qatar



### Doha North Sewage Treatment Plant

**Scope of work:** Chemical flushing and water treatment of chilled water system - 2 Nos  
**Client:** Ashgal / Keppel Seghers / AGAMEP  
**Location:** Um Salal Ali, Qatar



## Potable Water Sterilization

### Al Saflyia and Olympic

**Scope of work:** Chemical cleaning and oil flushing of fuel oil and hydraulic lines  
**Client:** Alsaflyia and olympic sky vessels  
**Location:** N/KOM shipyard, Ras Laffan



### QP- Dukhan field - Qatar

**Scope of work:** Sterilization of potable water piping  
**Client:** Etimaad Qatar  
**Location:** QP, Dukhan Field

### NDSQ & N/KOM - Qatar

**Scope of work:** Sterilization of potable water GRP piping  
**Client:** Archirodon / Nakilat  
**Location:** Ras Laffan Port, Qatar



# Technical Information

## Chemical Cleaning

Chemical cleaning is a method that derives unwanted contamination from surfaces and walls of equipment, pipelines, vessels, and heat exchangers. Our chemical cleaning procedures consider the environment, the cost effectiveness, and the cleanliness quality.



## Pickling & Passivation on Stainless Steel and Carbon Steel

We efficiently remove fouling deposits from process equipment, tanks, and other marine & industrial equipment by circulating chemical solvents under controlled temperature, pressure and time conditions.

Our experienced staff will analyze your equipment, processes, and deposits to design a cleaning process to fit your individual plant needs and select the optimal cleaning solution, and equipment on reference below.

Both pickling and passivation are chemical treatments applied to the surface of stainless steel to remove contaminants and assist the regeneration of a continuous chromium oxide passive film which restores the corrosion resistance of the stainless steel providing long term service.



### Deposit Sample Analysis:

- Solvent / Metallurgy Compatibility
- Process and Chemical Handling Safety
- Process Circuitry Design
- Fluid Flow Dynamics
- Nitrogen Purging
- Waste Minimization and Disposal

### Our chemical cleaning fleet consists of:

- Carbon Steel Circulator Pump Skids
- Stainless Steel Circulator Pump Skids
- Stainless Filtration Systems
- Nitrogen Purging Equipment
- Lined Tank Skid Systems
- Chemical Resistant Hoses
- Mobile Laboratory Units



## Oil Flushing

Systems such as fuel lines, lube lines, oil transfer lines and hydraulic systems require extremely clean piping. This is supported by empirical evidence that the life cycle of the equipment seriously decay when connected to contaminated components. Oil flushing is the industry norm for cleaning pipes.

## Disinfection for Drinking Water Tanks

Chlorination is the process of adding the element chlorine to water as a method of water purification to make it consumable drinking water. Water which has been treated with chlorine is effectively prevent the spreading of waterborne disease.

The chlorination of public drinking supplies was originally met with resistance, as people were concerned about the health effects of the practice. The use of chlorine has greatly reduced the prevalence of waterborne disease as it is effective against almost all bacteria and viruses, as well as amoeba.

Chlorination is also used to sanitize the water in swimming pools and as a disinfection stage in sewage treatment.

## Shock Chlorination

This process is used in many swimming pools, water wells, springs, and other water sources to reduce the bacterial and algal residue in the water. Shock chlorination is performed by mixing a large amount of sodium hypochlorite / calcium hypochlorite, into the water. Water that is being shock chlorinated should not be swum in or drunk until the sodium hypochlorite count in the water goes down to the allowed limit as per the World Health Organisation.

## Flushing / Retro Jetting Services

Flushing & Retro Jetting services are commonly used for the effective removal of construction debris, rust and mill scale on newly installed pipe work as well as production scale, rust, sand and wax from "production systems" pipe work which have become restricted over time.

Specialized high pressure nozzles are used to provide high velocity fluid flow at the work face with relatively low fluid consumption of 50 ltr/ minute. The reverse facing angles of the nozzle jets provides sufficient forward motion to feed the nozzle and hose assembly through the pipe work under its own propulsion.

## Steam Blowing

Steam blowing is a cleaning operation which uses the power (energy) and velocity of steam to remove impurities from boiler parts and additional pipelines, and differences in temperatures during steam blow operation will remove mill scale, due to expansion and contraction of the steam piping. Almost, all turbine manufacturer demands a steam blow cleaning to a certain cleaning criteria.

## Features

The retro jetting equipment packages are extremely versatile and feature the following:

- Hoses, nozzles and centralizers available for pipe sizes from 1/2 " to 52"
- Pump pressures up to 15,000 psig (1034 barG)
- High velocity flushing of large diameter lines with substantially less water requirements
- Jetting water can be re-circulated, filtered and re-used
- Corrosion protection can be added to jetting water

## Benefits

By integrating the retro jetting services with the hydro testing, bolting, chemical cleaning internal inspection and leak testing services, the overall efficiency of any construction project is greatly enhanced through crew reduction and reduced time scales.

The use of retro jetting services provides clients with a high degree of internal system cleanliness which, in turn, enhances production up-time and ensures a debris free start-up. Maximum jetting velocity is ensured over the entire pipe length to provide even cleaning and flushing results.

## Leak Testing

Helium leak testing with laboratory standard based mass spectrometer is recognized throughout the world as the only method for quantifying a leak. We offer both air / helium and nitrogen / helium testing options for new build construction on hydrocarbon systems.

## Inspection Services

Existing piping systems in service that are affected by contaminants, organic and inorganic scales will suffer reduced flow rate or affect heat transfer. We can offer tailored chemical cleaning and retro jet services for most new build and existing systems on a case-by-case basis.

## Hydro Testing

We supply spool piece hydro testing as part of our pre-commissioning package. We also reinstate spools after hydrotesting if piping modification takes place prior to final leak test.

This ensures structural integrity which in turn increases safety to all personnel and minimizes barriers around test areas allowing for simultaneous environment.

# Avesta

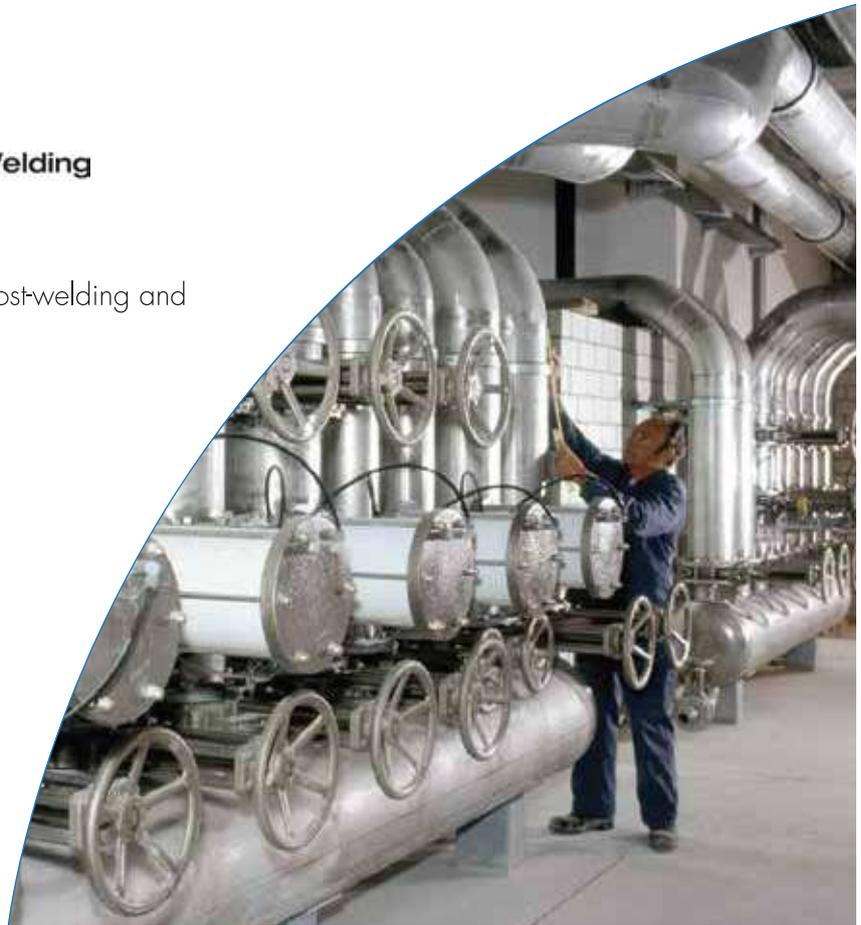
## Finishing Chemicals



voestalpine Böhler Welding

Avesta products cover all steps in post-welding and surface treatment of stainless steel.

- Pre cleaning
- Pickling and Passivation
- S.S. Specialty Chemicals



## Advanced Wastewater Solutions

- Compact Design
- Simple Maintenance
- Low Operating Costs
- Certified IMO/MED
- Minimal Operator Intervention
- Modular Design for Easy Installation
- Advanced Wastewater Treatment Technology
- Complies with Latest and Anticipated Regulations

ACO Lipatomat



ACO Maripur



# Complete Range of Marine Products and Services

- Test Kit: Potable water / fuel and lube oil
- Cargo hold barrier: Special coating barrier for cargo hold
- Rust converter: Metal surface pretreatment application
- Tank coatings: Soft coatings
- Boiler water treatment: Conventional and combined water treatment
- Specialty treatments: Reverse osmosis and potable water treatment
- General Maintenance: Descaling, rust remover, degreaser etc
- Anti corrosion coatings: Soft coating for ballast tank, void spaces
- Hydro testing: Corrosion and biological growth treatment
- Sewage Treatment: Chemicals and test kits
- Aquaquick: Environmental degreasers
- Cooling water treatment: Closed & open systems
- Eco-acid products: Replacement of conventional acidic products
- Oil spill dispersants: Decarbonizers, environmental friendly products
- Tank cleaners: IMO approved tank and cargo hold cleaners
- Dosing systems: Boilers, cooling system, seawater cooling treatment
- Fuel oil treatment: Lubricity and combustion improver / F.O dispersants
- Refrigerants and refrigeration equipment, pumps and spare parts
- Firefighting products and services, firefighting pumps, safety signs
- Seawater, antifouling and anticorrosion treatments
- Welding and cutting tools, welding and cutting gases
- Long life hard coatings for steam pipes, cargo hold and chemical tanks and especially potable water tanks
- Cargo hold cleaning products and equipment, spray pumps and high pressure units







## Concorde - Corodex Group

Fire Protection, Water and Wastewater  
Treatment and Environmental Specialists

### UAE

#### Abu Dhabi:

Concorde Trading  
Tel: +971 2 6668770 Fax: +971 2 6667863

Corodex Industries  
Tel: +971 2 5503331 Fax: +971 2 5503332

Corodex Electromechanical Contracting  
Tel: +971 2 6668771 Fax: +971 2 6667863

Al Jaddaf Electromechanical  
Tel: +971 2 6663136 Fax: +971 2 6667407

Concorde Technical Est.  
Tel: +971 2 5575551 Fax: +971 2 5575550

Bristol Vehicles Manufacturing Division  
Tel: +971 2 5575551 Fax: +971 2 5575550

#### Al Ain:

Concorde Trading  
Tel: +971 3 7212515 Fax: +971 3 7211254

#### Sharjah:

Corodex Agencies  
Tel: +971 6 5430800 Fax: +971 6 5430801

Al Khubara  
Tel: +971 6 5311830 Fax: +971 6 5311820

#### Dubai:

Corodex Trading  
Tel: +971 4 3472900 Fax: +971 4 3472796

Corodex Industries  
Tel: +971 4 3479895 Fax: +971 4 3479896

Eflo-Chem  
Tel: +971 4 3472900 Fax: +971 4 3472796

Corodex Electromechanic  
Tel: +971 4 3472900 Fax: +971 4 3470059

Corodex Marine  
Tel: +971 4 3472164 Fax: +971 4 3472184

Corodex Agencies (Fire Protection & Automation)  
Tel: +971 4 3472530 Fax: +971 4 3472501

Corodex Agencies (Safety and Rescue)  
Tel: +971 4 3472900 Fax: +971 4 3472796

Bristol Fire Engineering  
Tel: +971 4 3472426 Fax: +971 4 3472363

Bristol Gases  
Tel: +971 4 3472436 Fax: +971 4 3472441

### Worldwide

#### Oman:

Integrated Engineering Solutions (IES)  
Tel: +968 24614626 Fax: +968 24231569

#### Qatar:

International Gulf Trading Company (IGTC)  
Tel: +974 44694340 Fax: +974 44694467

Corodex Trading and Contracting  
Tel: +974 44694340 Fax: +974 44694467

#### Chubb Fire

Tel: +974 44088222 Fax: +974 44088444

#### Saudi Arabia:

Concorde Advance Technical Solutions  
Tel: +966 12 698 4993 Fax: +966 12 698 4991

#### UK:

EFLO International  
Tel: +44 (0) 1608 686171  
Fax: +44 (0) 792 1147865

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[www.corodex.com](http://www.corodex.com)



P.O.Box 12282 Dubai, UAE Tel: +971 4 3472164 Fax: +971 4 3472184  
Email: [info@corodex.com](mailto:info@corodex.com) [www.corodex.com](http://www.corodex.com)

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