



شركة الصناعات المتخصصة للخدمات الفنية و الاعتمادية للصناعة
Specialized Manufacturing & Reliable Technical Services Company

 **SMART**
Your Smart Choice

 www.x-smart.org

 sales@x-smart.org



We are a diversified business group, established in 2001, with interests across Engineering, Consulting, Industrial Services, Trading and Manufacturing. X-SMART provides products and services for the industry verticals of Oil, Gas, Petrochemicals and Chemicals.

Our aim is to exceed expectations in terms of value-for-money service delivery, maximization of savings potential and support to the network in terms of reliability and sustainability. Amongst our unique business differentiators is our ability to integrate our services and provide a dynamic interaction that brings tangible, sustainable benefits to our customers. We offer a unique integrated solution to Facilities Management service provision. It is the in-depth strength of our individual service offering that reinforces our service delivery model.

Our business-led approach ensures a performance-driven, motivated, professional workforce supported by end-to-end business processes and a system that creates a knowledge-based culture within the organization. Today, we are winning through our people - making customer satisfaction a reality - and securing long-term business in future. Through leadership direction, and the diversity of skills and expertise of our people and association, we have a vision to place ourselves as a distinct market-leader, as a provider of world-class services.

OUR MISSION

To develop, manage and operate a company with the best practices to serve the needs to the ultimate satisfaction of the client by preserving the environment and high regards to health, safety and quality.



OUR VISION

To be recognized as a leading provider of specialized services and products across the Kingdom of Saudi Arabia & other GCC countries by strategically partnering with world class companies with best practices of industry. We believe in deep collaboration through technology transfer from the partner companies and cross-pollination of our services to innovate a unique way to success.



OUR STRENGTH

- ✦ Strategic partnership with world class companies
- ✦ Technology transfer on products and services
- ✦ Strong and experienced leadership
- ✦ Multi-national workforce



OUR PEOPLE

Our people are considered the company's valuable assets since they possess several years of related experience and equipped with accredited industrial certifications in their respective field.



OUR CORE VALUES

Honesty & Integrity

We believe willingness and good reputation is core to our business. We promote Honesty, Integrity, Professionalism and high level of business ethics and conduct. We observe fairness in dealing with our stakeholders.

Customer & Excellence

We are diligent about understanding and achieving our customer's needs. We endeavor to please our customers with excellence in quality and services.

Innovation & Change

We are passionate about meaningful innovation. We embrace positive change brought forth by innovation and aspirations to grow our business.

Leadership & Prudence

We cultivate talent and leadership to create sound business solutions, to best meet our customer needs. We build prudence & cost-effectiveness in our leadership culture passing on benefits to our customers.



OUR STRATEGIC PARTNERS



MAJOR VENDOR REGISTRATIONS

Company

Vendor Code

ارامكو السعودية
Saudi Aramco



10052150

سابك
SABIC

606971

مرافق
MARAFIQ

4043

MA'ADEN معادن
شركة التعدين العربية السعودية
Saudi Arabian Mining Company



11476



الشركة السعودية للكهرباء
Saudi Electricity Company

5008452



شركة المياه الوطنية
National Water Company

16122



RCJ000686

In strategic association with global companies in the field of consulting

Consulting Business Units (BU)

X-SMART offers comprehensive engineering consulting services in the following areas:

- Oil & Gas
- Petrochemicals
- Chemicals
- Power
- Nuclear
- Infrastructure
- Energy
- Steel, Metals and Mining
- Construction

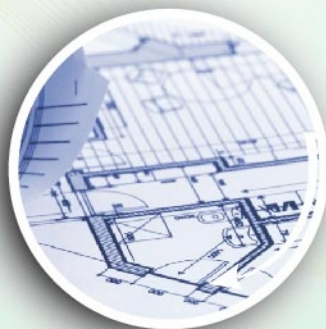
The range of services covers the entire gamut of project engineering i.e. from concept to project commissioning and turnkey design. The scope of services rendered by our consulting business unit includes:

Studies

- Pre-investment studies
- Master Plans and system studies
- Energy conservation and energy audit
- Electrical power system studies
- Techno-economic feasibility studies
- Selection of process collaborator
- Site selection studies
- Surveys and investigation studies- land & marine

(Total station/ GPS survey, bathymetric survey, geotechnical investigations, leak detection survey, sample surveys, etc.)

- Detailed project reports
- Model studies
- Environment management



Environmental

- ✘ Environmental Impact Assessment Studies
- ✘ Risk Assessment and Disaster Management
- ✘ Air pollution control, waste treatment & recycle systems
- ✘ Hazop studies
- ✘ Hazardous Waste treatment



Engineering

- ✘ Concept plans and preliminary designs
- ✘ Planning and scheduling
- ✘ Detailed engineering and design
- ✘ Cost estimates
- ✘ Procurement assistance (preparation of technical specifications and bid documents, Bid evaluation, purchase recommendations)
- ✘ Preparation of contract documents, contract administration
- ✘ Inspection and expediting
- ✘ Engineering application software development
- ✘ Review consultancy
- ✘ Advanced and sophisticated analysis (Finite Element Analysis



Project Management

- ✘ Project progress monitoring
- ✘ Construction supervision and /or management
- ✘ Supervision of plant start-up, commissioning and performance tests
- ✘ Life assessment studies
- ✘ Relocation/Rehabilitation and modernization of plants
- ✘ Cost Scheduling/ Monitoring and Control

Training and Manuals

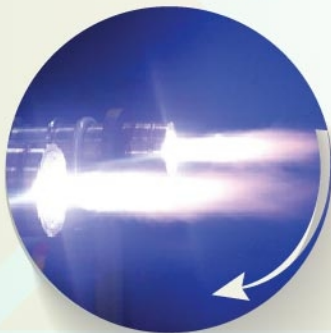
- ✘ Plant Operators' training
- ✘ Operations and Maintenance manuals
- ✘ Training and assistance in personnel selection



In association with Coronal LLC, USA

Coronal LLC is a Minneapolis/St. Paul, Minnesota based company that specializes in consulting and developing Plasma Gasification waste-to-energy projects. The company is directly involved with waste-to-energy projects from early development involving feasibility studies, design, permitting, construction and commissioning.

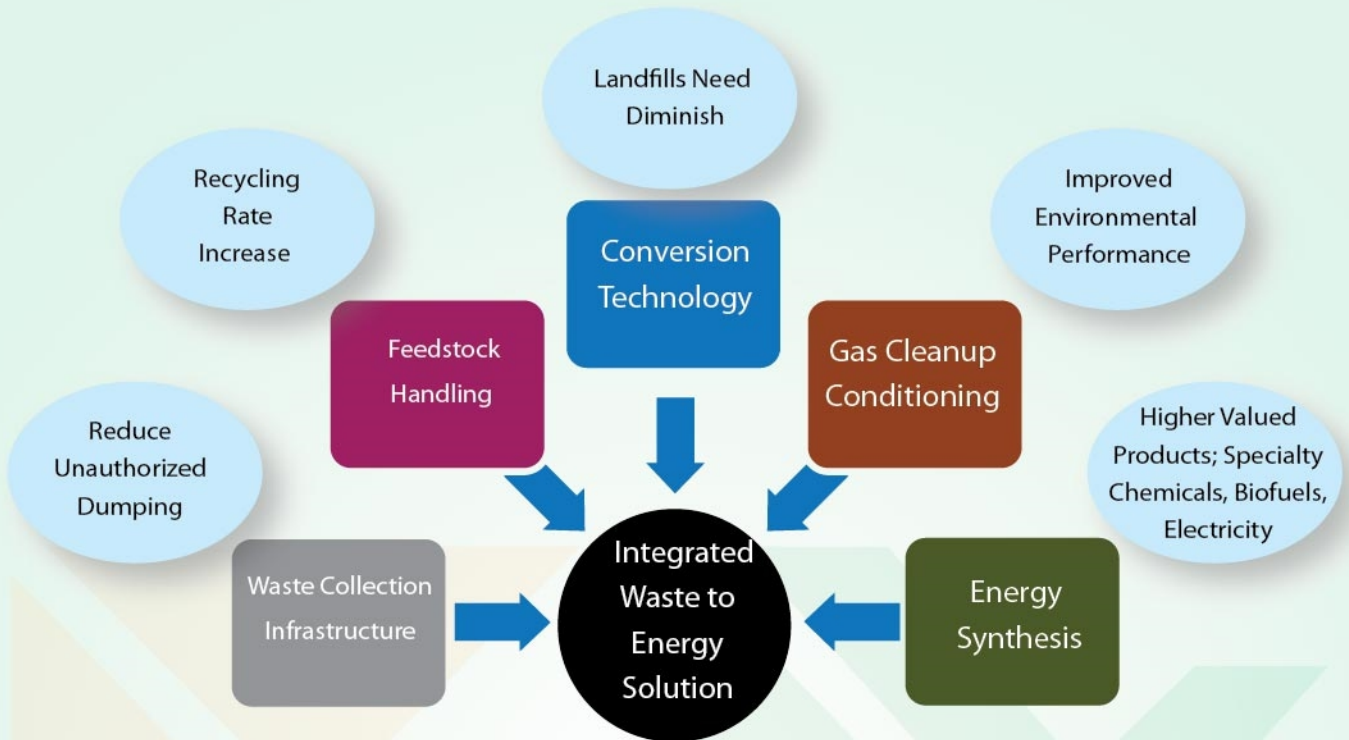
Coronal offers a customized, modular approach to establishing project parameters. Working closely with the client, Coronal analyzes the waste-to-energy project from waste stream, feedstock selection, to facility output and sale of the energy and slag produced. Financing, cost efficiency and economic returns are also analyzed. Coronal customizes various technologies and recommends the modular systems for feedstock treatment, gasification conversion, synthetic gas conditioning and systems controls. Coronal integrates various systems to meet client needs for synthetic fuels, steam, and electrical power while simultaneously meeting all local codes/regulations and environmental standards. In this approach the client can better make decisions as to the best technology, finance structure for the project and the size and mission of the facility.



Plasma Torch

Coronal works with its partners to build Plasma Gasification waste-to-energy facilities that are economically viable, environmentally sustainable and ecologically sound. Coronal has engaged local, regional, state, national governments and private partners in business development for the development of Plasma Gasification waste-to-energy facilities in North America, South America, Middle East, Asia and Europe.

Approach & Outcome



Plasma Gasification Technology

- ✦ Converts MSW and other feedstock (organic and inorganic) into marketable energy and solid by-products
- ✦ Breaks down MSW feedstock with intense heat of the plasma torch into usable synthetic gas and slag
- ✦ Produces synthetic gas, biofuels, steam or electricity as valuable energy by-products
- ✦ Minimizes air emissions by breaking down pollutants until rendered inert
- ✦ Uses integration controls to regulate the process for a constant output

Advantages of Plasma Gasification Waste-to- Energy Process

- ✦ Waste-to-energy conversion process supplies clean, renewable energy
- ✦ Flexible alternative energy formats – synthetic gas, biofuels, steam or electricity
- ✦ Economic development for the community and well-paying job opportunities
- ✦ Landfill growth is checked as waste is destroyed
- ✦ Synthetic gas production a viable alternative or supplement to natural gas
- ✦ Slag can be processed into road aggregate, bricks, tiles or rock wool for insulation
- ✦ Economically feasible solution that pays for itself in a short span of time

In association with Dong Yang Corrosion Engineering (DYCE) Co. Ltd.

Since its founding in 1970, Dong Yang Corrosion Engineering (DYCE) has focused on providing corrosion prevention and management products and services of the highest quality. From the beginning, they have always sought to combine practical engineering knowhow with deep technical knowledge. This has allowed them to consistently deliver results that exceed customers' expectations.

The result of the dedication as a customer service-focused organization has been the steady, careful growth into a global company. Because of this growth, Dong Yang Corrosion Engineering has changed its name to DYCE Global with offices in South Korea, Kuwait, UAE, Saudi Arabia, Singapore, and the United States.



The mission is to provide world-class products and services to the oil and gas, water and wastewater, ports and terminals industries etc. The DYCE work encompasses corrosion prevention of on-shore and off-shore pipelines, subsea equipment, terminals, floating production and processing facilities, and on-shore refining and processing facilities. DYCE is able to provide world-class, cost-effective solutions through the dedicated staff by understanding the customers' needs, including the regulatory and legal situations the customers operate in, and never compromise on quality or safety.

With the proven track record and history, you can be confident that in all that we engage in, your satisfaction is paramount. We value your time and trust in us and we look forward to being a valuable part of your corrosion prevention and management team.

DYCE Products & Services

Our Cathodic protection (CP) products & services include supply and installation of rectifiers, anodes and ground beds. We also have experience in evaluating the condition of CP systems and conducting repairs. We also have performed CP surveys, sometimes as a part of direct assessment, including test station analyses, coupon analyses, close-interval (CIS), Direct Current Voltage Gradient (DCVG), AC Voltage Gradient (ACVG), Soil Resistivity, and Pipeline Current Mapping (PCM). All of our CP services are conducted following the relevant codes and guidelines (e.g., NACE, US DOT, etc.).

- ✦ Engineering Services
- ✦ Cathodic Protection
- ✦ Direct Assessment
- ✦ Corrosion Management
- ✦ Corrosion Monitoring
 - ✦ Pipeline Flow Issues
 - ✦ Computational Fluid Dynamics (CFD)
 - ✦ Flow Research And Testing
 - ✦ Corrosion Research And Laboratory Testing
 - ✦ Flow Loop Design



Engineering & Production

In association with DHP Engineering Co. Ltd.

About DHP

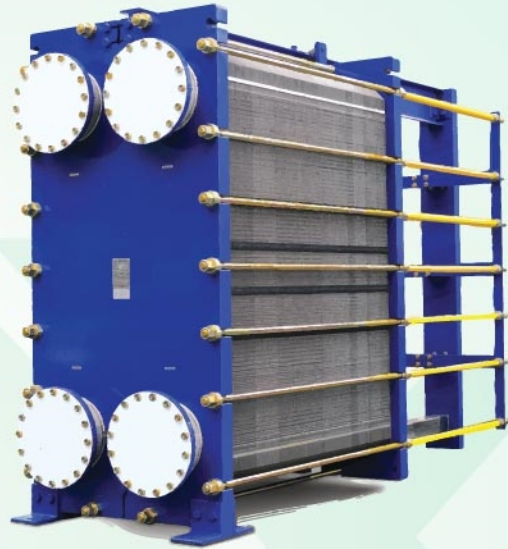
The history of DHP Engineering Co., Ltd. (DHP) is all about the development of the plate heat exchanger. DHP had its beginnings in 1970's when Korea's industrialization was in full swing. In 1975, the first plate heat exchanger was developed after about a year of trials by Mr. Song Gi Taek, the founder of DHP.

Product Profile

1) PLATE HEAT EXCHANGER

Innovative Plate Technology

- ✘ Newly Developed 'Perfect seal' Gasket
- ✘ International Patent Right Registered (28 Countries)
- ✘ Three Dimensional Pressure Dispersion System
- ✘ 300% Higher Friction Force (Up to 50 bar)
- ✘ Good keeping of Tightened Plate Pack
- ✘ Guarantee Longer Life Time of Gaskets



2) SPIRAL TYPE HEAT EXCHANGER

Features and advantages

- ✘ Compact size and high efficiency guaranteed
[Heating area 580m²: 2m(D)X2.5m(H)]
- ✘ Heat transmission enabled at little temperature difference by means of complete counter flow.
- ✘ Mixing proof between fluids owing to the perfect welding between both side fluid channels.
- ✘ Fully developed spiral flows in both channels make self-cleaning effect and this leads very little fouling inside of channels.
- ✘ Easy for chemical cleaning or mechanical cleaning by opening the cover
- ✘ Guaranteed efficiency for maximized heat transmission by highly developed turbulent flow
Nearly no maintenance cost required thanks to the minimized fouling and non-use of gasket
- ✘ Heat exchange of fluid containing slurry



Engineering & Production

3) DISK & SHELL TYPE HEAT EXCHANGER

DHP's new development 'Disk & Shell Heat Exchanger' is a heat exchanger which is composed of the good points of shell & tube heat exchanger and plate heat exchanger. This heat exchanger is welded plate pack in high pressure vessel. The maximum pressure is up to 100bar and the temperature is up to 400 C. The main application is condenser, evaporator and the units require high pressure and high temperature but small size.



4) FRESH WATER GENERATOR VACUUM EVAPORATING DISTILLER

To achieve fresh water for drinking and washing, vacuum distillation system is normally used in the isolated place such as on ships or on islands. The DHP vacuum evaporating distiller utilizes heat from diesel engine coolant and LP steam by special steam jet heater. The DHP vacuum evaporating distiller is based on the DHP's titanium plate heat exchanger, one for evaporating of the heated brine and the other for condensing of the water vapor. It can be used in Waste water treatment, Fresh water generator, Turbo steam compressor etc.



CONSTRUCTION CHEMICALS - In association with X-Calibur Construction Chemistry

X-Calibur Construction Chemistry Inc. is focused in the supply of high quality specialist construction products. Our product range incorporates some of the latest technology worldwide reflecting our experience in working on projects internationally. More than 60% of our staffs are qualified engineers, chemists or technologists

What We Do Best

We specialize in making concrete perform better in two main areas

- ✘ Protection and waterproofing of concrete to prevent deterioration
- ✘ Restoration of damaged concrete to restore its performance

Technology

We have technology partnership agreements with leading US, European, Middle and Far East companies that allow us to offer the latest products and technical support. All our products are developed with the end use in mind. This international capability provides you with the best solution over a compromise solution everytime.



Products Development

We have the resources and expertise to develop products to suit particular customer requirements. You explain the problem or need and we will provide an effective solution. If we cannot we will tell you so.

Technical Service

We specialize in providing the highest level of technical service. This is fundamental to the way we do business. We know we are working in an engineering environment with customers who have a high level of knowledge and expect sound professional advice.

Registered Applicator

Some products can only be installed by professional applicators. We will clearly identify these products and have Registered Applicators who have sufficient resources to ensure correct application of the product.

Products Training

We offer training in the use of all our products. Your investment in this service offers pay back almost instantly as efficiency is increased and wastage reduced.

X-CALIBUR PRODUCTS

X-Roc™ Concrete Restoration Systems

- ✘ High performance low shrinkage repair mortars
- ✘ Reinforcement protection
- ✘ Bonding agents
- ✘ Curing compounds



X-Roc™ Self Leveling Underlayments & Toppings

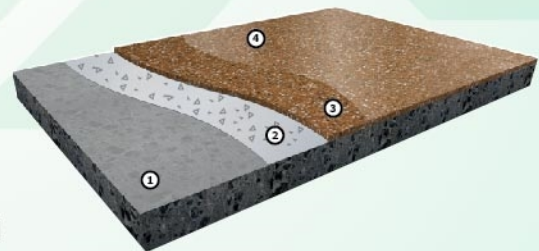
- ✘ Floor leveling compounds
- ✘ Wear surface toppings
- ✘ Finishing and patching mortars
- ✘ Primers

X-Shield™ High Performance Coatings

- ✘ Polyureas offering exceptional chemical and abrasion resistance with very extremely fast return to service, including amine triggered single component products.
- ✘ Abrasion and chemical resistant epoxy coatings for potable water, dirty and general purpose use
- ✘ Epoxy and polyurethane industrial flooring systems.
- ✘ Silane and silane siloxane penetrants to prevent chloride and water ingress.
- ✘ Water based high performance aliphatic acrylic anti-carbonation coatings.

X-Tite™ Grouts and Adhesives

- ✘ Anchor grouts, both mix & pour and cartridge systems.
- ✘ Cementitious grouts and additives for civil engineering applications.
- ✘ Epoxy and polyurethane injection grouts.
- ✘ Epoxy adhesives.
- ✘ Tile and stone fixing mortars.



X-Pruf™ and Rawell® Waterproofing Systems

- ✘ Rawmat® and Rawseal® high performance pre-hydrated bentonite waterproofing membranes and waterstops.

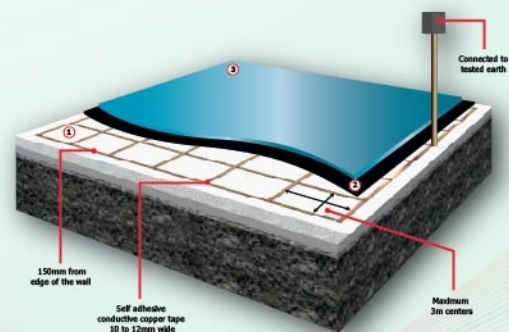
X-Stop™ PVC Waterstops

X-Seal™ Joint Sealing Systems

Polysulphide and polyurethane gun grade and pourable sealants Polyurea expansion and control joint sealants

X-Connect™ Rebar Connectors

A full range of products to splice reinforcing bar



X-Form™ X-Cure™ X-Tard™ X-Treat™

Form release agents, curing compounds, surface retarders and floor cleaners

Our experience in Engineering, coupled with our obligation to provide quality products along with the lowest prices available, has earned us a national reputation for knowledge, trust and reliability. We are committed to excellence in the marketing and distribution of value-added name brand products that meet the needs of our customers and result in excellent quality and performance.

Main Activities

Retailers for the Listed Building Materials & Equipment:

- ✘ DASPI Gate Operators
- ✘ Automatic Doors
- ✘ Shade Guards and Tents
- ✘ Metal Works (Gates, Fences, Handrails, etc.)
- ✘ Movable Ladders
- ✘ Speed Mixers
- ✘ Sanitary Fixtures (such as Floor and Roof Drain)
- ✘ Door Hardware
- ✘ Machines for Decorative Steel
- ✘ Suspended Ceiling
- ✘ Kitchen Sink & Bathroom Accessories



Sliding gates



Swing gates



Garage doors



Barriers



Sliding glass doors



Tubulars - Shutters



Roll up doors



Accessories



AC/DC Loadbanks – In Association with Hillstone Loadbanks Ltd.

Hillstone Products Ltd, established in 1989, have developed a worldwide reputation for design & manufacture of industry leading load banks. Hillstone expertise, which spans over 45 years in power engineering, delivers loadbank sale or rental to ISO standards from our UK factory. The UK operation supports overseas sales offices in Dubai via our sister company Hillstone Middle East TRADING LLC and other partners in Europe, Middle East and the Far East to give a high quality engineering solution to your load testing requirements.

Our Loadbank Rental Service operates from depots in UK, Dubai and Saudi Arabia, with resistive AC load banks from 10KW to 1500KW and DC load banks from 12V to 1200V up to 4500A DC. Our extensive range of datacentre heat loads are used for IST COMMISSIONING from our rental division.

Hillstone Datacentre Services OFFERS full Datacentre Load Testing and COMMISSIONING, from our experienced site engineers to provide independent verification of Integrated System Testing and supporting of Tier Certifications. Available heat load solutions include include 19" rack mounted 4U server simulators, 20KW portable mini towers and 110KW PDU loadbanks with synchronised controls.

Types of Loadbanks

1) Data Center

6KW 19" Rack Mounted Loadbank & 20KW Mini Tower Heaters

2) HACV415 series

500KW to 1200KW 3 PHASE AC LOAD BANKS

3) HBN 60 Series

NATURALLY COOLED, DC / AC LOAD BANKS

4) HPB260540 Series

AUTOMATIC, DUAL VOLTAGE, CONSTANT CURRENT DC LOAD BANK



In association with Ashapura Industries Ltd.

Ashapura Group is one of the pioneers in the development of industrial minerals in India. It is world's third largest producer of Bentonite and the largest exporter of Bentonite and metallurgical grade Bauxite from India.

Ashapura Group has nearly 1800 acres of Bentonite mines & 3500 acres of Bauxite mines under its control. The group has now ventured into value added Bentonite products like acid activated bleaching clay. Apart from Bentonite and Bauxite, Ashapura has significant presence in the field of various industrial minerals including Barite, Feldspar and Kaolin. Ashapura's annual production combined together for all the minerals is around 10 Million Tons. Ashapura's forward integration into logistic related activities like shipping has added more value to the client.



Types of Bentonite

Optigel

Optigel, which is specially designed for application in civil construction activities, is a selectively mined high montmorillonite Sodium Bentonite produced under controlled conditions.

Pilogel

Pilogel is a high quality Bentonite with well-balanced rheological properties, designed to fit with all necessities of diaphragm walling, piling, pipe-jacking, tunneling or drilling.



Pilogel HD 200

Pilogel HD 200 is a selectively mined high montmorillonite Sodium Bentonite produced under controlled conditions. It is specially formulated to meet the high requirements of tunneling and HDD. It helps in rapid viscosity development while maintaining effective borehole stabilization and enhanced filtration control in most water-based drilling fluids.

Drillcon 9

Drillcon 9 is a premium grade Bentonite. It meets API 13 A sec 9 requirements which provides best viscosity and gelling properties.

Packing

Packing is available in 25Kg/50Kg box type bags duly wrapped, strapped and palletized. It can also be made available in 1MT/1.25MT Jumbo bags upon request.

POPDISC is a company based out of Korea having capabilities to design, develop and manufacture the Rupture Disc and Explosion Vent Panel.

RUPTURE DISC categories are listed below:

1) POPR REVERSE BUCKLING KNIFE-BLADE RUPTURE DISC

The POPDISC POPR (Reverse Buckling Knife-Blade) rupture disc relieves overpressure by reversing against knife-blade located in the holder cutting the rupture disc into four petals, knife-blade cuts the disc into four equal segments without fragmentation, no process contamination by metal.

2) POPRK REVERSE BUCKLING KNIFE-SHEAR RUPTURE DISC

The POPDISC POPRK (Reverse Buckling Knife-Shear) rupture disc relieves overpressure by reversing against knife-ring located on the disc cutting the rupture disc into one petal, knife-shear cuts the disc into one segment without fragmentation, no process contamination by metal.

3) POPSR REVERSE BUCKLING SCORED RUPTURE DISC

The POPDISC POPSR (Reverse Acting Scored) rupture disc incorporates precision scoring design in a metal. The precision scoring design controls the burst pressure and cuts the disc into four equal segments without fragmentation, no process contamination by metal.

4) POPC DOME COMPOSITE RUPTURE DISC

The POPDISC POPC(Dome Composite) rupture disc consists of three components, a slotted metal top section and a plastic or metal seal membrane and a vacuum support under the seal membrane. The slotted metal top section is open, the plastic or metal seal membrane isolates the top section from process fluid and prevents leakage.

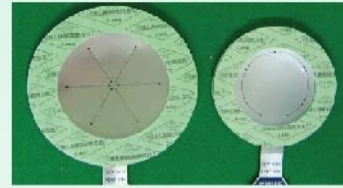
5) POPSF FORWARD ACTING SCORED RUPTURE DISC

The POPDISC POPSF(Forward Acting Scored) rupture disc incorporates precision scoring design in a metal. The precision scoring design controls the burst pressure and cuts the disc into four equal segments without fragmentation, no process contamination by metal. The POPSF rupture disc can be used in liquid, vapor and is available in a large variety of materials to provide protection from corrosive fluid.



6) POPF FLAT COMPOSITE RUPTURE DISC

The POPDISC POPF(Flat Composite) rupture disc consists of three components, a slotted metal top section and a plastic or metal seal membrane and a vacuum support under the seal membrane. The slotted metal top section controls the burst pressure of the disc. The slotted metal top section is open, the plastic or metal seal membrane isolates the top section from process fluid and prevents leakage.



7) POPT (THREAD) / POPU (UNION) RUPTURE DISC

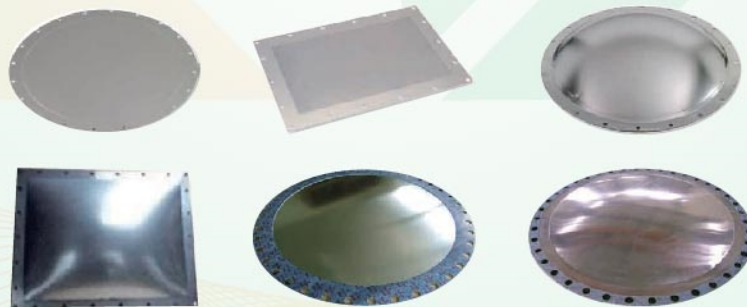
The POPDISC POPT (Thread) / POPU(Union) rupture disc is widely used on laboratory pressure equipment, autoclaves, hydraulic accumulators, compressed air or liquid system, gas gauges. The POPT holder is a three-piece unit consisting of a base holder(inlet), ring and nut(outlet).



EXPLOSION VENT PANEL categories are listed below:

1) PVCFC COMPOSITE FLAT CIRCULAR EXPLOSION VENT PANEL and PVCFS COMPOSITE FLAT SQUARE & RECTANGULAR EXPLOSION VENT PANEL

1) The PVCFC(Composite Flat Circular) and PVCFS(Composite Flat Square) / PVCFR(Composite Flat Rectangular) explosion vent panel is a composite membrane, high performance explosion vent. The PVCFC vents are lightweight and specifically designed for dynamic non-fragmenting operation during venting of explosions from industrial equipment.



2) PVCDC COMPOSITE DOME CIRCULAR EXPLOSION VENT PANEL and PVCDS COMPOSITE DOME SQUARE & RECTANGULAR EXPLOSION VENT PANEL

The PVCDC(Composite Dome Circular) and PVCDS(Composite Dome Square) / PVCDR(Composite Dome Rectangular) explosion vent panel is a composite membrane, high performance explosion vent. The PVCDC vents are lightweight and specifically designed for dynamic non-fragmenting operation during venting of explosions from industrial equipment. All applicable requirements of NFPA68, Guide for Venting of Deflagrations, are met with this design. This explosion vent provides superior life for severe process pressure cycling and pulsating conditions.

In Association with World Bridge Industrial Co. Ltd.

World Bridge, started in 1986, has developed Aluminum Geodesic Dome Cover, Vault Dome Cover and Flat Cover (WORLD DOME®) under extensive research and development programs with local Korean University and its own laboratory test in order to meet growing commitment works from domestic oil refinery companies.

Following to growing demand of Aluminum Dome Cover, we can supply best quality Aluminum Geodesic Dome Cover for the petroleum storage tank and civil waste water treatment projects, a sludge thickener aeration & sedimentation as well as bulk storage industry.

Our state of the art dome design works are equal or exceed API Appendix 650 G design criteria and it will be the best solution to use World Bridge good quality Internal Floating Roof (WORLD COVER®) systems together with Aluminum Dome Roof. This will reduce maintenance costs and future operating expense as well as economical solution for new tank's construction and retrofitting works on your existing tanks.



From our 20 years of oil refinery's tankage seals service works and total tank maintenance experience, we have accumulated a lot of optimum solutions to reduce air pollution control (VOC removal system) and save energy & hydrocarbon emission from your tanks.

Now WB would like to contribute our new technology to keep clean environment and protect water & air pollution throughout world oil & petrochemical industries. Now WB can design and supply Aluminum Dome Cover for a range of diameter from 5m-120m for oil & gas, petrochemical or water treatment facilities.

Types of Aluminum Dome Roofs

1) INTERNAL FLOATING ROOF SYSTEMS

Worldbridge's advanced Internal Floating Roof are equipped with the global standard components including special swing joints incorporating with suction and oil skimmer lines. WB have supplied over one thousand five hundred (1,500) sets of WBIFR & tank seals products to all around the world oil and petroleum industries.

2) EXTERNAL FLOATING ROOF SEAL SYSTEMS

The external floating roof seal comes under the following types:

- | | |
|--|---|
| 2.1) WB-1 Pantograph Type – Mechanical Shoe Seal | 2.6) Graver Foam Seal |
| 2.2) WB-2 Plate Spring Type – Mechanical Shoe Seal | 2.7) WB-1 with Wax Scraper |
| 2.3) WB-3 Coil Spring Type – Mechanical Shoe Seal | 2.8) WB-50 Secondary Seal |
| 2.4) Tube Seal | 2.9) WB-50E Secondary Seal |
| 2.5) WB-7 Foam Seal | 2.10) WB-100 Double Seal & WB-50 Secondary Seal A/S |



3) 3+1 TYPE FLOATING ROOF DRAIN SYSTEMS

WB worldwide patented twin access type steel drain systems can be used like a rubber hoses type movement in the floating roof storage tanks. WB achieved this new technology to overcome many other competitors' failure design works and prevent drain hoses & other bolts broken problems in the floating roof drain systems. From the extensive R&D test works, the twin access type, WBFSJ joints can be allowed at least +15 Degree left and right side deck's movement works without damaging the whole drain systems. WB is very proud of its state of the art technology to minimize maintenance works on drain systems to the valuable clients including Oil & Gas and Petrochemical industry verticals. Swivel Joint Type Roof Drain Systems are fully sealed units specifically designed for submerged liquid service such as articulated pipe drainage systems for floating roof tanks, oil skimmers and suction line system.



4) TANK FITTING PRODUCTS

The major tank fitting products of WB are listed below:

- | | |
|--------------------------------------|--|
| 4.1) Pressure & Vacuum Relief Valves | 4.4) Emergency Vent & Hatch Cover |
| 4.2) Flame Arrestor | 4.5) Vapor Reduction Device for Gauge Pole |
| 4.3) Gauge Hatch Products | |

In Association with HADO Co. Ltd.

HADO as a joint venture of SATAKE Chemical Equipment Mfg., Ltd. has been a leading mixer manufacturer and chemical apparatus machinery exporter in the world since 1977. HADO mixers are the leading products in the industrial fields of petrochemicals and chemicals, pulp and paper, water and waste water treatment, FGD, oil and petroleum, mining and minerals, pharmaceuticals, slurry storage and many other fluid applications.



The company provides top-entry mixers, side-entry mixers, portable mixers, line mixers, static mixers and chemical process equipment for fluid mixing applications. Its own model that is the multi-S mixer series allows for a safer and easier maintenance of mechanical seals. It offers a full spectrum of impeller designs for liquid-liquid, gas-liquid, solid-liquid mixtures of various applications. Its advanced impeller design that is the Super-mix series provides the high performance of mixing and the high efficiency of energy saving.

This company has much experience of many applications. It has unparalleled records with long shaft, large motor power and long running life. Its dedicated R&D service offers the advanced test methods such as CAE, CFD, PIV and the large test facility to ensure improvement of customers' application performance. It always makes efforts to upgrade the reliability, functionality and safety of the mixers. It offers durable and long-lasting mixers in the industry. It has received certifications including ISO 9001, ISO 14001 and CE in recognition of the high-quality assurance of its products and service.

PRODUCTS

Hado Multi S Mixer™

- ✘ Mixers are made more compact through the rearrangement of gear arrays.
- ✘ Substantial cost reduction is made possible through the increased use of common parts.
- ✘ The combination of rotation speed and motor output can be set in 17 different steps, a range far greater than that preceding models.
- ✘ The newly developed 3-bladed axial flow, 1-stage impeller achieves high discharge coefficient and low drag coefficient. This simplified impeller provides even higher performance than 4-bladed pitched paddle, 2-stage impeller.
- ✘ These mixers can be used with any type of motor sold on the market.
- ✘ With some of these new mixers, mechanical seals can be easily attached or detached without removing the mixers from their place of installation.



Easy Maintenance - Mixers that allow easy replacement of mechanical seal

- ✘ The existing mechanical seal can be easily replaced with a new one without removing the reduction gear unit.
- ✘ The reduction gear unit can be swung aside to allow the mechanical seal to be pulled out overhead.
- ✘ The time required for maintenance is significantly reduced

Side Mount Type

- ✘ The side-mount type is suitable for mixing liquids of medium or low viscosity in a deep tank.
- ✘ Though this type is compact and light-weight, it can perform partially strong agitation as it can be mounted in the chosen position.
- ✘ By mounting the mixer on the tank in an off-set position, the need for baffle plates can be eliminated without affecting the steady flow of liquid.



Vibration Analysis & Laser Alignment Services **In Association with Vibspectrum International LLC.**

Vibspectrum International LLC" is a company based in Dubai (established in 2008), having branches in Abu Dhabi, Fujairah, Saudi Arabia & New Zealand.

We have a group of well experienced Engineers and Technicians in various disciplines to undertake any challenging Electromechanical, Vibration Testing and Analysis, Thermography, Laser Alignment, Marine Automation/Electrical jobs. Our engineers / technicians are capable of carrying out component level repair of PCB's and repair / retrofit of ACB's of make ABB, Terasaki, Hyundai, Schneider, etc.

Also we undertake specialist services like: Vibration analysis, Natural Frequency Test, Dynamic balancing, Laser Alignment , Thermography and Ferrography, Noise Monitoring and Mapping, AC/DC load bank testing and rental service



Installation, commissioning and breakdown maintenance of the following:

- ✘ Main Engine control and instrumentation
- ✘ Aux Engine and Instrumentation
- ✘ Boiler and IG control and instrumentation
- ✘ General alarms and Fire alarm systems
- ✘ Alternator control, Alarms and Safety
- ✘ Main/Emergency Switch Board testing, modification and retrofit.
- ✘ Cargo, Engine room and Provision Cranes repair and servicing.
- ✘ Cargo/Ballast valve remote control system.
- ✘ Supply and Installation of various types of control panels.
- ✘ Marine Growth Protection System (MGPS)
- ✘ Antifouling systems of make Catherco
- ✘ UK, Korean Cathelco, CAPAC, Nippon Corrosion etc.
- ✘ Hull Protection Impressed Current Cathodic Protection systems (ICCP) of the make
- ✘ Cathelco UK, Korean Cathelco, CAPAC, Nippon Corrosion etc.
- ✘ Tank gauging system
- ✘ Servicing and Calibration of 15 PPM monitors
- ✘ Supply, installation and commissioning of Vibration Monitoring System.

- ✘ Repairing, reconditioning of all brands of ACBs and Circuit breakers.
- ✘ PCB repairs: Component level repairs of diverse types of PCBs.
- ✘ Installation of various shipboard marine equipment.
- ✘ Tank cleaning services.
- ✘ General cabling, glancing and termination.

Special Services:

- ✘ Vibration analysis
- ✘ Natural Frequency Test
- ✘ Dynamic balancing
- ✘ Laser Alignment
- ✘ Thermography and Ferrography
- ✘ Noise Monitoring and Mapping
- ✘ AC/DC load bank testing and rental service



OEM Representation & Supply of Products:

- ✘ Vibration Analyzers-ACOM, FRANCE & HANSFORD SENSORS, UK.
- ✘ Laser Alignment Systems- FIXTURE ACOEM, SWEDEN.
- ✘ Sound Level meters – 01 dB ACOEM, FRANCE
- ✘ Wireless Sensors – BEANAIR FRANCE
- ✘ Oil Test Kits – KITTIWAKE, UK
- ✘ Supply of Marine Engine & Equipment spares.
- ✘ Supply of various Marine Electrical, Electronics and Instrumentation Components and Switch gears
- ✘ We stock following new/reconditioned equipment:
 - ✘ ACBs of make ABB, TERASAKI, SCHNEIDER, SIEMENS AND HYUNDAI etc.
 - ✘ 15 PPM Monitors-MAKE: Deckma, Rivertrace, Fellow Kogyo etc.
 - ✘ OMDs: Visatron, Daihatsu, Graviner etc.

In Association with GS Operations & Maintenance

GS Operations & Maintenance Co. (GS O&M) was founded in July 2008 as the GS group platform for providing specialized Operation & Maintenance Services to the international oil, gas, petrochemical, power and environmental industries.

GS O&M, a branch of GS Engineering & Construction (GS E&C), with more than 40 years of success in providing integrated EPC services, has gained extensive O&M experience working with most of Korea's largest and most successful refining and petrochemical groups who hold world ranking status in every field of operations and maintenance excellence.

GS O&M was specifically established to leverage these GS Core Competencies and multi-discipline capabilities for all phases of project development, execution and commercial operation. This extends through all primary management, operating, technical support, training and specialist execution services. In today's increasingly competitive and fast moving world of new energy and environmental economics every plant Owner is required to address every opportunity for enhanced plant performance, reliability, competitiveness & economic viability on a continuous basis.



Strengths of GS O&M

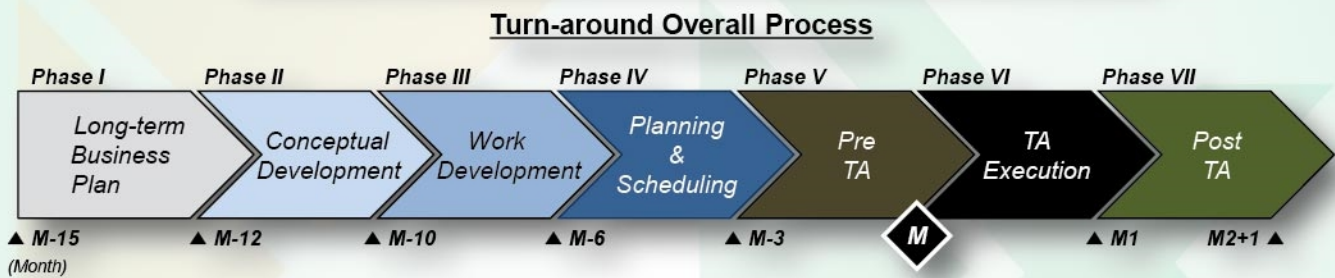
- ✘ Maintenance Best Practices & Database
- ✘ Experience and Skilled professional
- ✘ Familiarity with the process industries
- ✘ Management experience of subcontractors
- ✘ Commissioning & Start-up experience
- ✘ Global Sourcing networks
- ✘ Unparalleled Safety Performance
- ✘ Excellent Synergies between GS Group Affiliates

Services of GS O&M

- ✘ General Maintenance Contract
- ✘ Industrial Cleaning Services
- ✘ Turnaround Maintenance
- ✘ Mechanical Works
- ✘ Tank OOS System
- ✘ Specialized Services

TA (Turnaround Maintenance)

Turn-around Strategy : Maintenance Excellence	
Mechanical Availability (%)	Maintenance Index (\$/EDC)
<ul style="list-style-type: none"> Increase TA Interval Shorten TA Duration Minimize Unplanned Shut-down 	<ul style="list-style-type: none"> Minimize Work Volume Increase Efficiency



Maintenance Consulting Services

- ✘ Advanced Inspection
- ✘ IT Enhancement
- ✘ Energy Conservation
- ✘ Material Management
- ✘ Equipment Protection
- ✘ Preventive Maintenance
- ✘ Equipment Standardization
- ✘ Reliability Engineering

General Maintenance Contractor Services

- ✘ Achieve Objectives of Company
- ✘ Mitigate Indirect Manpower associated with multiple Subcontractors
- ✘ Increase Work Efficiency manage the interface between Crafts Easily Apply Best Practices
- ✘ Share Best Practices of individual Company Subsidiaries
- ✘ Get Bargaining Power against Material Vendors and/or Subcontractors
- ✘ Achieve Cost Transparency
- ✘ Develop Competent Subcontractors

In Association with KOINS Co. Ltd.

Welcome to KOINS CO, LTD. We have a leading position with fruitful growing based on our advanced technology & experience in this pipeline field which is core for national key industry including petrochemical plants. We are recognized for our professionalism on pipeline maintenance, especially pigging technology since the foundation of our company. We get prior & competitive position with intergrated system in a range of engineering, design, manufacture, pig production, outsourcing technology and site service. Based on this robust ability and experience in pipeline maintenance field, we are extending our service territory on pipeline inspection as well as maintenance. Now we pursue to achieve highest level through technical ability & global network and get the competitiveness in global market. We are going to meet you with package process service in all industrial field with pipeline inspection, maintenance and rehabilitation. Our executives and staff guarantee to fulfill the need with first class technology & service to domestic, national, further world wide client with our sense of responsibility and principle that we are at a pivotal role of industry.



BEFORE DECOKING



AFTER DECOKING

Products & Services

MANUFACTURE & SUPPLY	<ul style="list-style-type: none"> • Production & Sales of Pigs • Sales of Pigging material
PIGGING SERVICE	<ul style="list-style-type: none"> • Pig cleaning for New built pipeline • Furnace Heater Tube Decoking • Descaling for existed pipeline • Proof test
PIGGING SYSTEM	<ul style="list-style-type: none"> • Design, Fabrication and Installation of Pigging Trap, Signaller, Diverter
CHEMICAL CLEANING	<ul style="list-style-type: none"> • Heat Exchanger, Condenser, Air pin cooler, etc.
INSPECTION SERVICE	<ul style="list-style-type: none"> • Intelligent Pig • Laser Profiler • Mapping Service • CCTV Visual
LINING SERVICE	<ul style="list-style-type: none"> • Pig Lining Service • Spray Lining Service
HOT TAPPING/PLUGGING	<ul style="list-style-type: none"> • Hot Tapping / Plugging
HIGH PRESSURE WATER JET CLEANING	<ul style="list-style-type: none"> • High Pressure Water Jet Cleaning

شركة الصناعات المتخصصة للخدمات الفنية و الاعتمادية للصناعة Specialized Manufacturing & Reliable Technical Services Company



Head Office

P.O Box: 5711,
Dammam-31432, KSA
Tel: +966 13 842 2343
Fax: +966 13 841 5445
Mob:+966 56 777 1131 / 50 445 8678

Branch Office

3rd Floor, Narena Flower Bldg,
King Abdulaziz St, BTW 10th & 16th St,
Al-Khobar-31952, KSA
Tel: +966 13 8810581/0585
Fax: +966 13 8974367
Mob:+966 58 188 9898

Branch Office

SMART Camp Office,
Abu Hadriya Road,
Jubail-2, KSA
Tel: +966 13 367 2811/2812/2813
Fax: +966 13 367 2814
Mob:+966 56 540 2626 / 56 559 4882





XSMART
Xtreme Smart Choice

