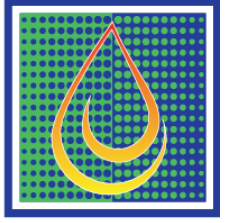


مصنع الأسود الثلاثة
Three Lions Factory



COMPANY PROFILE



P.O. Box 63052, Al-Khaldiya II,
Dammam, Kingdom of Saudi Arabia



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+966 13 859 8522



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INTRODUCTION

Three Lions Factory for Cathodic Protection was established in 2004. Since its inception TLF is one of the leading Cathodic Protection Company in the region. TLF specializes in **Design, Engineering, Manufacturing, Installation & Commissioning of Cathodic Protection Systems**. It also provides **Technical Consultation and Support Services**.

TLF with decades of experience in the region provides custom-engineered solutions with cost effective prevention against corrosion, increasing the service life of our clients' assets. Our engineering and technical team is highly qualified and dependable and is led by engineers qualified from National Association of Corrosion Engineers (NACE).



GOVERNING PRINCIPLES



Our ambitious goals of growth and progress will be achieved with total commitment to quality, safety, cost-efficiency and environment-friendly material & processes.



HSE – Zero Harm
People – Employer of Choice
Services & Products – Total Customer Satisfaction
Organization – Profitability & Growth

THE COMPANY



Commercial Registration



Industrial License

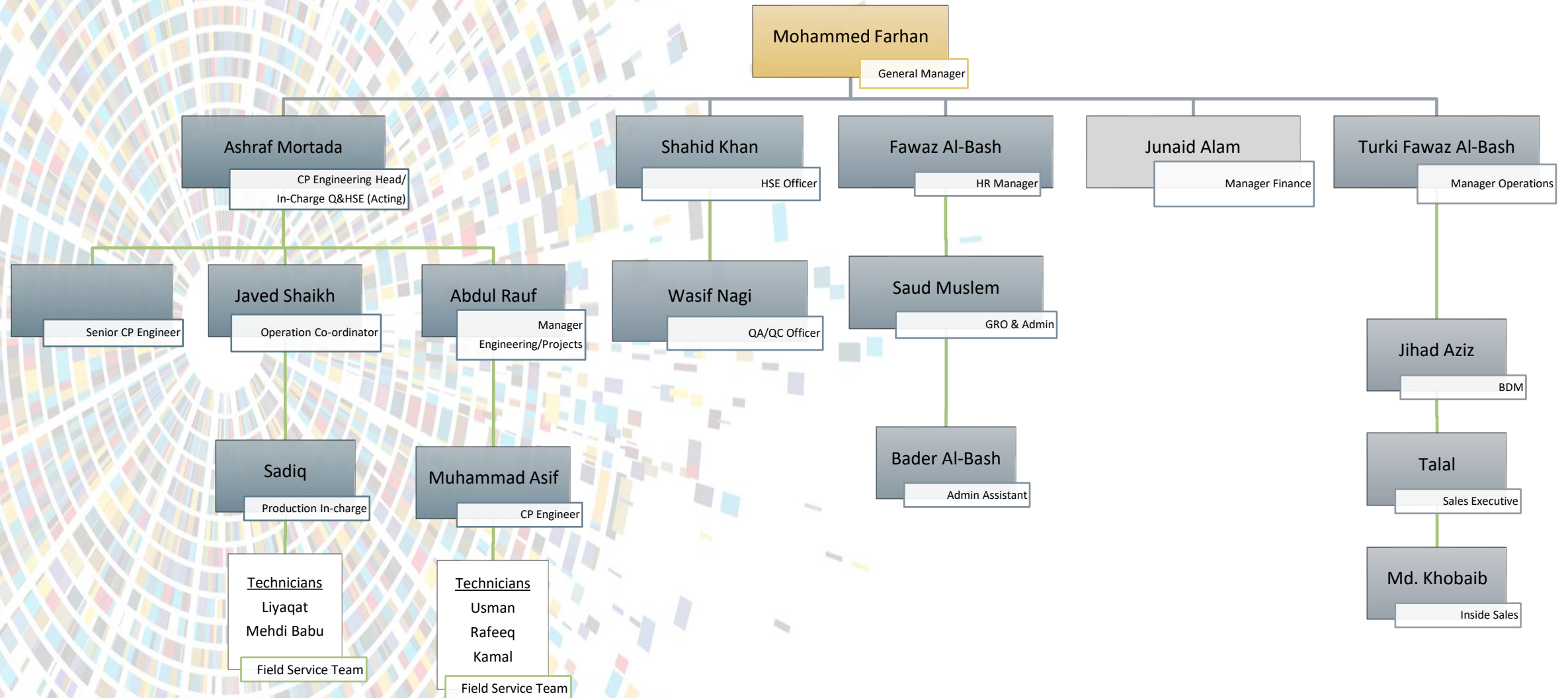


ISO 9001:2015 Certificate



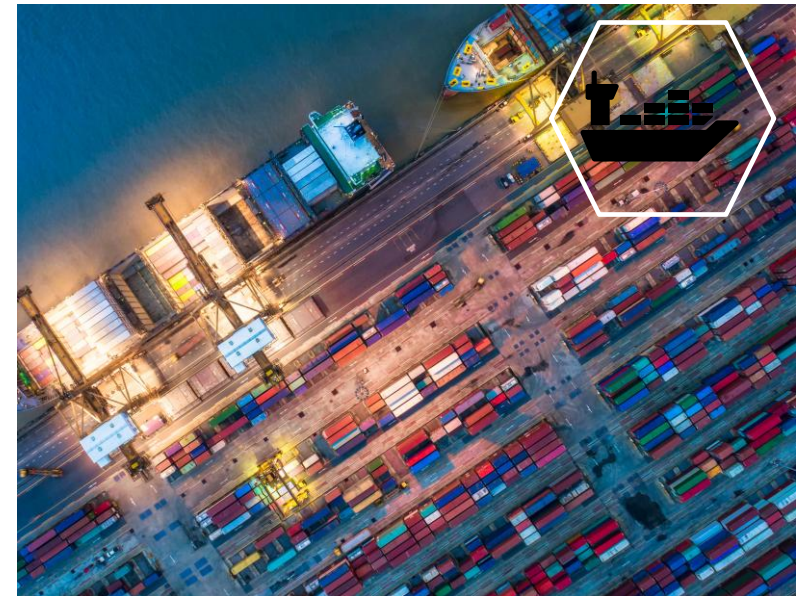
ISO 45001:2018 Certificate

THE MANAGEMENT



OUR MARKETS

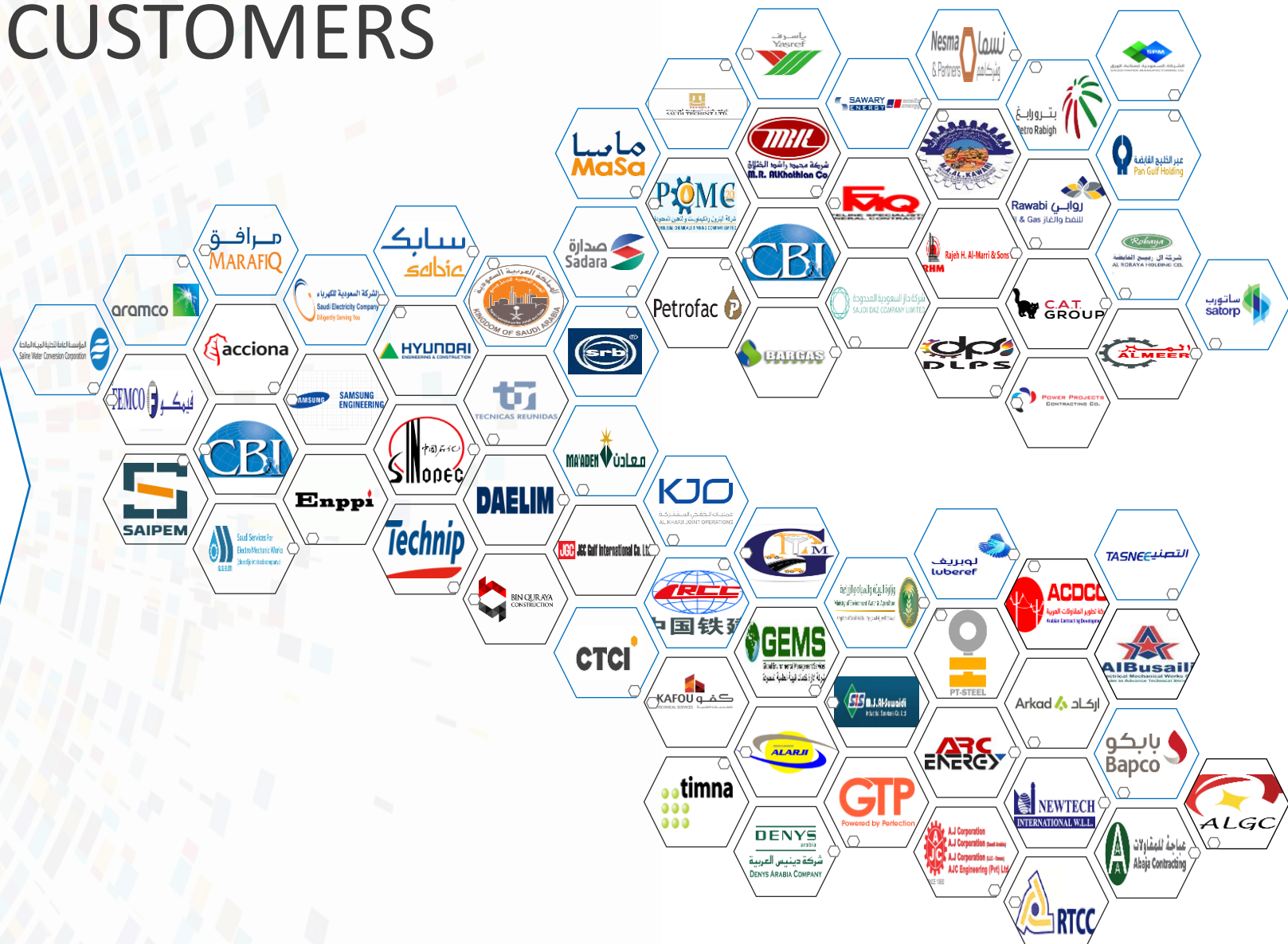
- ✓ Water
- ✓ Power
- ✓ Petrochemical
- ✓ Oil & Gas
- ✓ Marine



OUR VALUABLE CUSTOMERS

Key Vendor Registrations

-  **SWCC: 2813**
-  **Saudi Aramco: 10034667**
-  **Marafiq: 2463**
-  **SABIC: 505982**
-  **SEC: 2003538**
-  **MA'ADEN: 8003**
-  **SATORP: 11235**
-  **NWC: 40122**
-  **KJO: 102567**
-  **SADARA: 1000000992**
-  **PETRO RABIGH: 100587**
-  **SIPCHEM: 105470**
-  **AL-AYUNI: 240006**
-  **WORLEY: 1668**
-  **REVIVA: 101967**
-  **RTCC: 11674**
-  **AL-SUWAIDI: 12161**



OUR SERVICES

Design & Engineering

Design Philosophy
Design Criteria & Basis
Description of the System
Design Calculations
Bill of Materials
Installation Procedures
Site Survey for CP
CP Monitoring & Maintenance

Installation & Commissioning

Tank Internal CP
Tank External CP
Deep Anode Bed
Horizontal Anode Bed
Supervision of Installation & Commissioning

Manufacturing

Production of Anodes (All Types)
Junction Boxes Assembly
TRU's Assembly
Inspection & Testing

Field Services

Long Term CP Monitoring Contracts
CP System Renewal & Enhancement Studies
Anode Installation Witness
Drill Stem Test (DST)
Well Commissioning
Pipeline Potential Test

Projects

Maintenance
Inspection & Monitoring
Site Surveys

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OUR PRODUCTS

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TRANSFORMER
RECTIFIER UNITS



SACRIFICIAL ANODES



IMPRESSED CURRENT
ANODES



JUNCTION BOXES



CP CABLES



REFERENCE
ELECTRODES



TAPES & COATINGS



MISCELLANEOUS
PRODUCTS

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TRANSFORMER RECTIFIER UNITS (TRU)



Product : Transformer Rectifier Unit

Types : Oil Cooled , Air Cooled

Functionality: Manual , Automatic

Specifications : NACE, Aramco, SABIC, SWCC, Royal Commission

Features : High Performance Components

Rugged Design

Can withstand Extreme Temperatures & Humidity

Remote Monitoring (Optional)

Applications : ICCP Systems for Tanks, Pipelines, Vessels etc.



SACRIFICIAL ANODES



Product : Sacrificial Anodes

Types : Magnesium Anodes

Standard alloy (AZ63)

High Potential Alloy

Aluminum Anodes

Galvalume I™ (contains zinc and mercury for use in seawater)

Galvalume III™ (contains zinc and mercury for use in saline mud)

Galvalume III™ (contains zinc and mercury for use in seawater, brackish water and saline mud)

Zinc Anodes

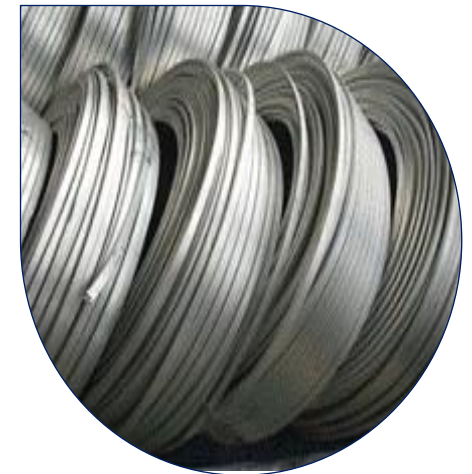
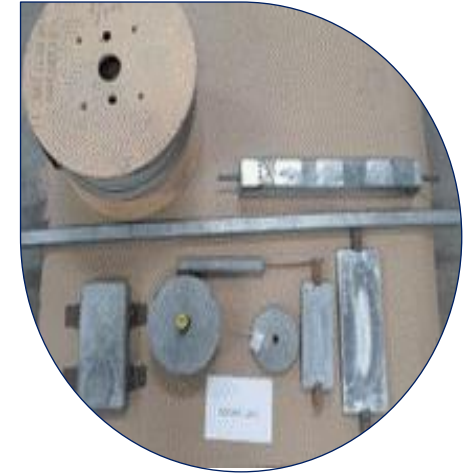
ASTM B418 Type I (for salt and brackish water)

ASTM B418 Type I (high purity for underground and fresh water)

Zinc Ribbon Anodes

Specifications : As per NACE standard

Features : High Performance Components



IMPRESSED CURRENT ANODES



Product : Impressed Current Anodes

Types : High Silicon Cast Iron Anodes

MMO Tubular Anodes

MMO Rod Anodes

MMO Wire Ribbon Anodes

MMO Mesh Strip Anodes

Specifications : MMO Tubular → ASTM B338 Grade 1 or 2

MMO Ribbon → ASTM B948 (Wire) ; ASTM B265 (Ribbon)

MMO Mesh → ASTM B265 Grade 1 or 2

Features : High Quality Materials

Variety of Applications

Applications : Process Vessels

Storage Tanks

Water Condenser Boxes

Heat Exchangers

Water Intake Structures

Ground Bed Applications



JUNCTION BOXES



Product : Junction Boxes

Types : Anode Junction Boxes

Bond Boxes

Explosion Proof Junction Boxes

Multipurpose Junction Boxes

Test Stations

Specifications : MMO Tubular → ASTM B338 Grade 1 or 2

MMO Ribbon → ASTM B948 (Wire) ; ASTM B265 (Ribbon)

MMO Mesh → ASTM B265 Grade 1 or 2

Features : High Quality Materials

Variety of Applications

Applications : Process Vessels

Storage Tanks

Water Condenser Boxes

Heat Exchangers

Water Intake Structures

Ground Bed Applications



CP CABLES



Product : CP Cables

Types : High Molecular Weight Polyethylene (HMWPE) Cables

THHN / THWN Cables

XLPW / PVC Cables

KYNAR / HMWPE Cables

Instrumentation Cables

Specifications : Standard copper conductor confirms to ASTM Specification B-8.

Insulation confirming to ASTMD-1248, Type 1, Class A, Category 5, Grades E and E5. Tensile Strength II, J3 available with high density Polyethylene type (Type II, III, IV) Class B and C (all colors)

Features : High Quality Materials

Variety of Applications

Applications : Process Vessels

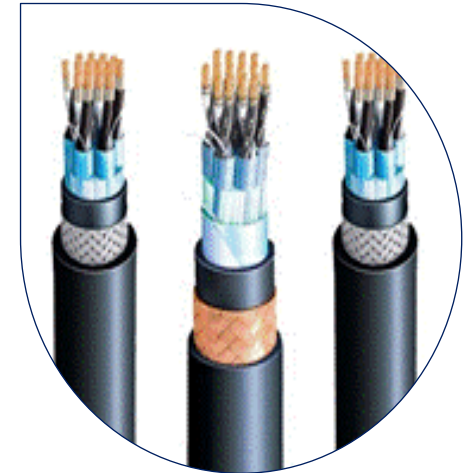
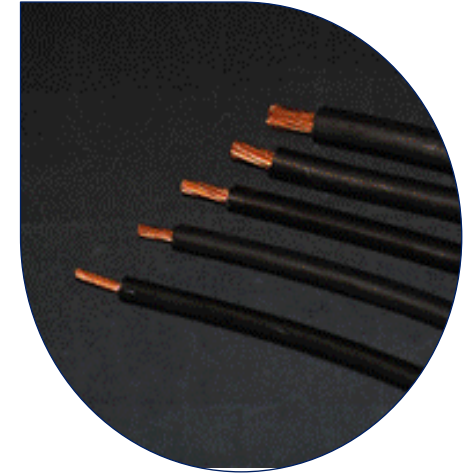
Storage Tanks

Water Condenser Boxes

Heat Exchangers

Water Intake Structures

Ground Bed Applications



REFERENCE ELECTRODES



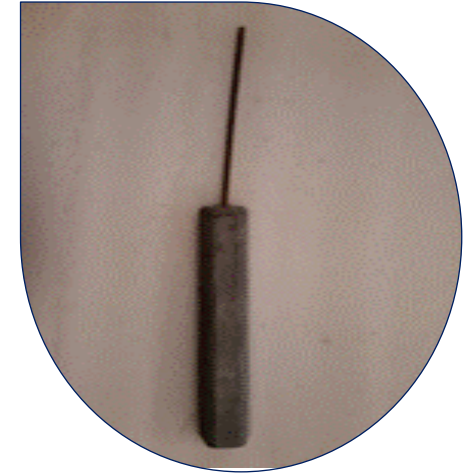
Product : Reference Electrodes

Types : Copper / Copper Sulphate (Cu/CuSO_4)
Silver / Silver Chloride (Ag/AgCl)
Zinc

Specifications : Various Sizes / Types

Features : High Quality Products

Applications : Permanent Applications
Portable Applications
Process Vessels
Storage Tanks
Water Condenser Boxes
Heat Exchangers
Water Intake Structures
Ground Bed Applications



TAPES & COATINGS (CHASE CORP., USA)



Product : Tapes, Coating Material

Types : Cold Applied Tapes

Hot Applied Tapes

Petrolatum / Wax Coatings and Tapes

Liquid Coatings: Epoxy Systems and Primers

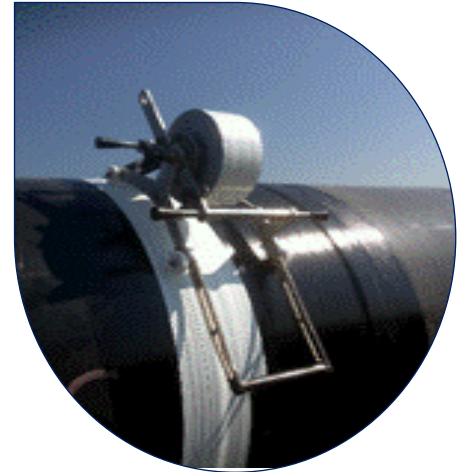
Marine Coatings

Specifications : Various Sizes / Types

Features : High Quality Products

Applications : Highly Corrosive Environment
Pipelines

Catalogue : [Chase - pipeline products.pdf](#)



MISCELLANEOUS PRODUCTS



Product : Insulating Flange Kits
Thermite Weld Materials
Big Fink Test Station
Flush Fink Station
Myer Hub (Al & Zn)
Anode Ground Bed Materials: Backfills, Vent Pipes etc.

Specifications : Various Sizes / Types

Features : High Quality Products

Applications : CP System Accessories



EXPERIENCE

Description	Location	Client / Owner	Year	Status
HAWTAH Cathodic Protection Systems for Water Storage Tanks	HAWTAH	SAUDI CATERING	2024	ON-GOING
HARADH Cathodic Protection Systems for Water Storage Tanks	HARADH	SAUDI CATERING	2024	ON-GOING
CP Materials for KJO	KHAFJI	JALHAMI	2023	ON-GOING
Repair or Installation of New Cathodic Protection System by Replacing Old Damaged Anode	RAS AL-KHAIR	MA'ADEN	2023	ON-GOING
ACCIONA AGUA S.A Saudi Arabia	SHOQAIQ 4	ACCIONA AGUA / SWCC	2022	ON-GOING
ACCIONA AGUA S.A Saudi Arabia	JUBAIL 3B	ACCIONA AGUA / SWCC	2022	ON-GOING
NJWTS CP Design, Material, Installation & Commissioning	JEDDAH	MGC/SWCC	2022	ON-GOING
CP Monitoring Services	JUBAIL, KSA	SADARA CHEMICAL CO.	2020	ON-GOING
Outline Agreement For Five Years CP System	JUBAIL, KSA	MASA/ MARAFIQ	2024	COMPLETED
Aluminum String Anode Supply for Three (3) Years	KHAFJI, KSA	KJO	2019	ON-GOING
CP Design & Supply T&I of Effluent Water Tank H37-d-132, HAWTAH - CP System Internal/ External	HAWTAH	QAS ARABIA CO. LTD.	2024	COMPLETED
CP Engineer NACE Level II Daily Rate for South Ghawar Project	SOUTH GHAWAR	CAT	2023	COMPLETED
Internal/External CP System Raw Water Tank Dhahran	DHAHRAN	FARIS NASHAT AL-OTAIBI EST	2023	COMPLETED

EXPERIENCE

Description	Location	Client / Owner	Year	Status
CP Design & Installation of CP Grid for Tank Bottom at Duba Bulk Plant	DUBA, KSA	ARABIAN FAL / SAUDI ARAMCO	2022	COMPLETED
Wrapping Tape Supply & Installation at Plant Piping 4 Km	JUBAIL, KSA	EXPERTISE CONTRACTING / PK-N SABIC	2022	COMPLETED
CP Design, Engineering, Material Supply, Installation, Testing & Commissioning for Pipelines for Plant Piping	JUBAIL, KSA	EXPERTISE CONTRACTING / PK-N SABIC	2022	COMPLETED
CP Design, Engineering, Material Supply, Installation, Testing & Commissioning for Pipelines at Rayyis Station	RAYYIS, KSA	MGC / SWPC	2021	COMPLETED
Upgrade Cathodic Protection System at Utilities Shedgum	SHEDGUM, KSA	KASS INT'L / SAUDI ARAMCO	2021	COMPLETED
CP Design & Engineering for Pipeline and Road Crossing	SHUQAIQ 3 IWP, KSA	ACCIONA AGUA / SWPC	2021	COMPLETED
Upgrade/ Install CP System 2nd Industrial Area	DAMMAM, KSA	AHG	2021	COMPLETED
CP Design, Engineering, Material Supply, Grid System Installation, Testing & Commissioning for Tank External	RAS TANURA, KSA	SAUDI DAZ/ SAUDI ARAMCO	2021	COMPLETED
Upgrade Cathodic Protection System at Utilities Shedgum	SHEDGUM, KSA	KASS INT'L / SAUDI ARAMCO	2021	COMPLETED
Construction of Khobar to Dammam Jamiah Water Transmission System	KHOBAR / DAMMAM, KSA	SSEM / SWCC	2020	COMPLETED
CP Design, Material Supply, Installation of Internal CP System For Tank, Testing & Commissioning for Tanks	KHOBAR, KSA	ACCONIA/ SWCC	2020	COMPLETED
Upgrade Jet Fuel System at PS#3 & PS#10 Airstrips	MADINAH, KSA	SAUDI DAZ/ SAUDI ARAMCO	2020	COMPLETED
CP Material Supply & Testing Commissioning	JAFFURA (HASA), KSA	ADVANCED LINE/ SAUDI ARAMCO	2020	COMPLETED

EXPERIENCE

Description	Location	Client / Owner	Year	Status
Crude Oil Well Commissioning Services	SHAYBAH, KSA	CAT/ SAUDI ARAMCO	2020	COMPLETED
Crude Oil Well Commissioning Services	HARADH, KSA	POWER PROJECTS COMPANY/ SAUDI ARAMCO	2020	COMPLETED
Aluminum String Anode Supply for Two (2) Years	KHAFJI, KSA	KJO	2019	COMPLETED
CP Design, Material Supply, Installation of Grid System, Testing & Commissioning For Tanks	JUBAIL, KSA	FEMCO/ ROYAL COMMISSION	2019	COMPLETED
Cathodic Protection Monitoring & Maintenance for Pipeline & Tanks	RAS AL-KHAIR, KSA	MA'ADEN ALUMINIUM COMPANY	2019	COMPLETED
Survey of Cathodic Protection System For AK2 & AK3 Sea Water Screening	AZIZIYAH (KHOBAR), KSA	SWCC	2019	COMPLETED
CP Design, Material Supply, Installation Of Grid System, Testing & Commissioning for Tanks	JUBAIL, KSA	PAN GULF SYSTEM/ MARAFIQ	2018	COMPLETED
CP Commissioning Contract for Tanks	JUBAIL, KSA	SADARA CHEMICAL CO.	2018	COMPLETED
CP Design, Material Supply, Installation, Testing/Commissioning for Pipeline	RAS AL KHAIR, KSA	SAMSUNG ENGG./ MA'ADIN	2018	COMPLETED
Design, Installation, Commissioning & Materials Supply for Hadeed Metering Station Project	JUBAIL, KSA	BIN QURAYA EST. / SABIC (HADEED)	2015	COMPLETED
CP Material Supply	DAMMAM, KSA	RAWABI CORROSION SERVICES/ SAUDI ARAMCO	2015	COMPLETED
CP Monitoring Contract of 5 Years for Tanks And Pipeline	JUBAIL, KSA	SADARA CHEMICALS	2014	COMPLETED
CP Material Supply	SHEDGUM (ABQAIQ), KSA	FAISAL MOHAMMED AL-QAHTANI/ SAUDI ARAMCO	2014	COMPLETED

EXPERIENCE

Description	Location	Client / Owner	Year	Status
AC Mitigation Study	ABQAIQ, KSA	PETROFAC SAUDI/ SAUDI ARAMCO	2014	COMPLETED
CP Material Supply	SHEDGUM (ABQAIQ), KSA	AHA AL-QAHTANI & SONS CO.	2014	COMPLETED
Design, Installation, Commissioning & Material Supply for Karan Gas Facility	KHURSANIYA (JUBAIL), ksa	HYUNDAI E&C / SAUDI ARAMCO	2013	COMPLETED
Commissioning & Materials Supply for Khafji NGL Project	KHAFJI, KSA	BIN QURAYA EST./ KJO	2013	COMPLETED
CP Material Supply	ABQAIQ, KSA	AL-ROBAYA EST./ SAUDI ARAMCO	2013	COMPLETED
CP Material Supply	KHAFJI, KSA	KHAFJI JOINT OPERATION	2012	COMPLETED
Design, Installation, Commissioning & Material Supply	KHAFJI, KSA	JGC GULF INTERNATIONAL/ KJO	2012	COMPLETED
CP Material Supply	ABQAIQ, KSA	M.A. AL-KAWARI EST./ SAUDI ARAMCO	2012	COMPLETED
Design, Installation, Commissioning & Material Supply for Dhahran Tank	DHAHRAN, KSA	SEUDROHBAU SAUDI ARABIA LIMITED(SRB)/ SAUDI ARAMCO	2012	COMPLETED
Design, Installation, Commissioning & Material Supply for Gas Pipe Project Dammam	DAMMAM, KSA	SAUDI PAPER MANUFACTURING	2012	COMPLETED
CP Design, Material Supply, Installation, Testing/Commissioning	SOUTHERN REGION, KSA	SAUDI ELECTRICITY SUPPLY COMPANY	2011	COMPLETED
Design, Installation, Commissioning & Material Supply for Tanajib Water Treatment Plant	TANAJIB, KSA	JGC CORPORATION/ SAUDI ARAMCO	2011	COMPLETED
Commissioning & Materials Supply for Kharir Basement Phase-2, Total Project	YEMEN	ENPPI	2010	COMPLETED

EXPERIENCE

Description	Location	Client / Owner	Year	Status
CP Materials Supply, Installation, Commissioning of WRMU	MANIFA, KSA	SAUDI TECHINT LIMITED/ SAUDI ARAMCO	2010	COMPLETED
Design, Installation, Commissioning & Material Supply for JERP Package 5C	JUBAIL, KSA	M.R. AL-KHATHLAN/ SATORP	2010	COMPLETED
Design, Installation, Commissioning & Material Supply for Manifa Cogeneration Project	MANIFA, KSA	TECNICAS REUNIDAS/ARAMCO	2010	COMPLETED
Design, Installation, Commissioning & Material Supply for SHARQ Project	JUBAIL, KSA	SAUDI BIN LADEN-PCMC/ SABIC -SHARQ	2010	COMPLETED
CP Materials Supply, Potential Survey of Pipeline, Commissioning of WRMU	DAMMAM, KSA	METAL SERVICES	2009	COMPLETED
CP Materials Supply, Potential Survey of Pipeline, Commissioning of WRMU	DAMMAM, KSA	SAUDI ARABIA SAIPEM	2009	COMPLETED
CP Materials Supply, Potential Survey of Pipeline, Commissioning of WRMU	KHURAI (RIYADH), KSA	SAUDI ARABIA SAIPEM/ SAUDI ARAMCO	2009	COMPLETED
Design, Installation, Commissioning & Material Supply for Diesel Tank at Prince Noora University	RIYADH, KSA	SAWARY ENERGY	2008	COMPLETED
Design, Installation, Commissioning & Material Supply for Corporate Data Centre Project	DHAHRAN, KSA	LATIFIA TRADING & CONTRACTING	2008	COMPLETED

HOW TO REACH US!



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