



شركة بيسكو للخدمات الصناعية المحدودة
Bisco Integrated Services Co. Ltd.



PRE QUALIFICATION DOCUMENT

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INTRODUCTION

Introduction

Introduction

It is our great pleasure to introduce our company “**BISCO**” a wholly Saudi Arabian ISO 9001:2015 certified under Commercial Registration No **2055008098**. The head office is in Al Madinah Street Al- Jubail, Kingdom of Saudi Arabia and branches in Riyadh & Yanbu, Kingdom of Saudi Arabia and Dubai, Bahrain & Oman.

BISCO has been started in the year 2007 and managed to cater the Quality needs of the various industrial sectors in the K.S.A with a strong force of Qualified, Highly Experienced and Energetic Personnel.

BISCO is a leading service provider of **NDT & Advanced Inspection Services** to the industry. We serve to industries like manufacturing, oil gas, power plant and construction. **BISCO** established to cater the needs of fast growing Industrial City. We pride ourselves on our management expertise, quality of workmanship and excellent in safety as our goal to satisfy the needs of our clients and ensure repeat business where ever it is possible.

At present, we are providing our services to **SABIC (VENDOR#504671)**, **SECO (Vendor#63718 & Saudi Aramco (Vendor# 10037273)**, **Advanced Petrochemical Company-100662**, **MARAFIQ – 3936 MA’ADEN – 8315 & SAHARA-10137** and all other leading companies in Eastern Province, Kingdom of Saudi Arabia. **BISCO** has achieved the SABIC Global Contract award for NDT and Inspection Services.

We help our customers to meet their quality requirements with emphasis on quality service, quickly turnaround time and customer satisfaction. **BISCO** is a company leading by highly qualified personals providing services in the oil, gas, power plant & construction sectors.

Yours truly,

Ahmed Khalifa Al –Buainain
General Manager

MANAGEMENT

Quality
Management
System

Quality Management System

BISCO operates a Quality Management System that implements the management of the Company Quality, Health, Safety and Environmental policies. The aim is to maintain and continuously improve the performance of the Company and to promote a safe working environment for all Company and contracted personnel.

The Company's Quality Management System is based on established principles of organization, planning, execution, reporting, review of performance, feedback of experience and independent verification of the work, including the application of continuous improvement. The purpose of the Quality Management System is to have the management organization structured and operate in such a way as to ensure that the principle and aims of the Company Policy are practiced. This is achieved by visible and active leadership by management to motivate and secure the involvement and participation of all employees. The agreed continuous improvement programs promoted within the Company specify the goals and address the effectiveness of the Company's management and operational activities.

BISCO Number One Ethic is the safety, health and well being of its employees, Contractors, Customers and the public. BISCO will never knowingly endanger people or pollute the environment. BISCO will foster an atmosphere that focuses on prevention of accident and protection of the environment. Safety will never be comprised.

Quality Policy

To provide reliable service to customers through continuously upgraded technology, training and motivation of people.

Quality Target

Aim to achieve the non-conformance to zero
Maintain Quality at all Phases of processes

- ▶ The quality objectives of the company are evolved and monitored as detailed in documented procedures.
- ▶ The quality policy is communicated through visual displays and pocket booklets the same is understood, at all levels of the organization and followed.
- ▶ This is assessed and reviewed periodically by the MR for compliance and commitment to Total Quality and discussed at the Management Review Meetings for Quality policy implementation.

The Vision of BISCO

"BISCO will emerge as one of the preferred destinations for Inspection services in Middle East, for customers valuing reliability, durability and continuously updated technology and superior customer responsiveness"

Mission Statement

- ▶ To maintain the image as a service provider of Quality and value added Engineering services and to be one among the market leaders and gain expertise in current endeavours.
- ▶ To motivate our employees to excel in their performance with quality and safety by providing appropriate training and create opportunities for individual continued development and recognition by rewarding them suitably.

COMPANY DETAILS

Company
Details



Company Details

Head Office - KSA

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UAE

Beta Inspection Services

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Bisco Infotech Services & Trad.

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MUSCAT

Beta Inspection Services

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BAHRAIN

Bisco Technical Services Co. W.L.L.

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Al Seef 0458
Kingdom of Bahrain
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Email: info@bisco.com

CANADA

Mapleleafbisco

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NDT & Inspection Division

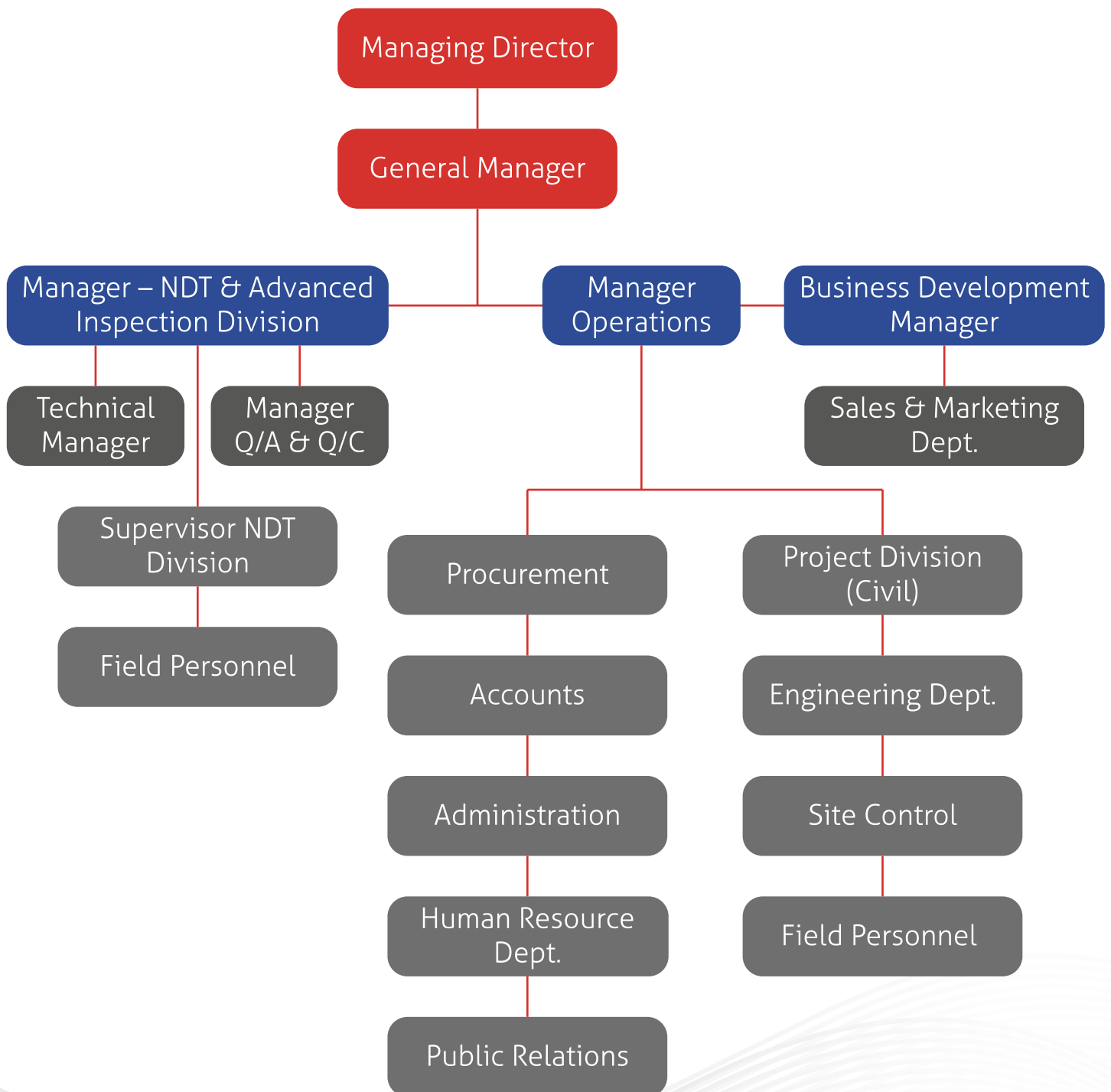
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ASNT Level III & RSO

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ORGANIZATION

Organization Chart

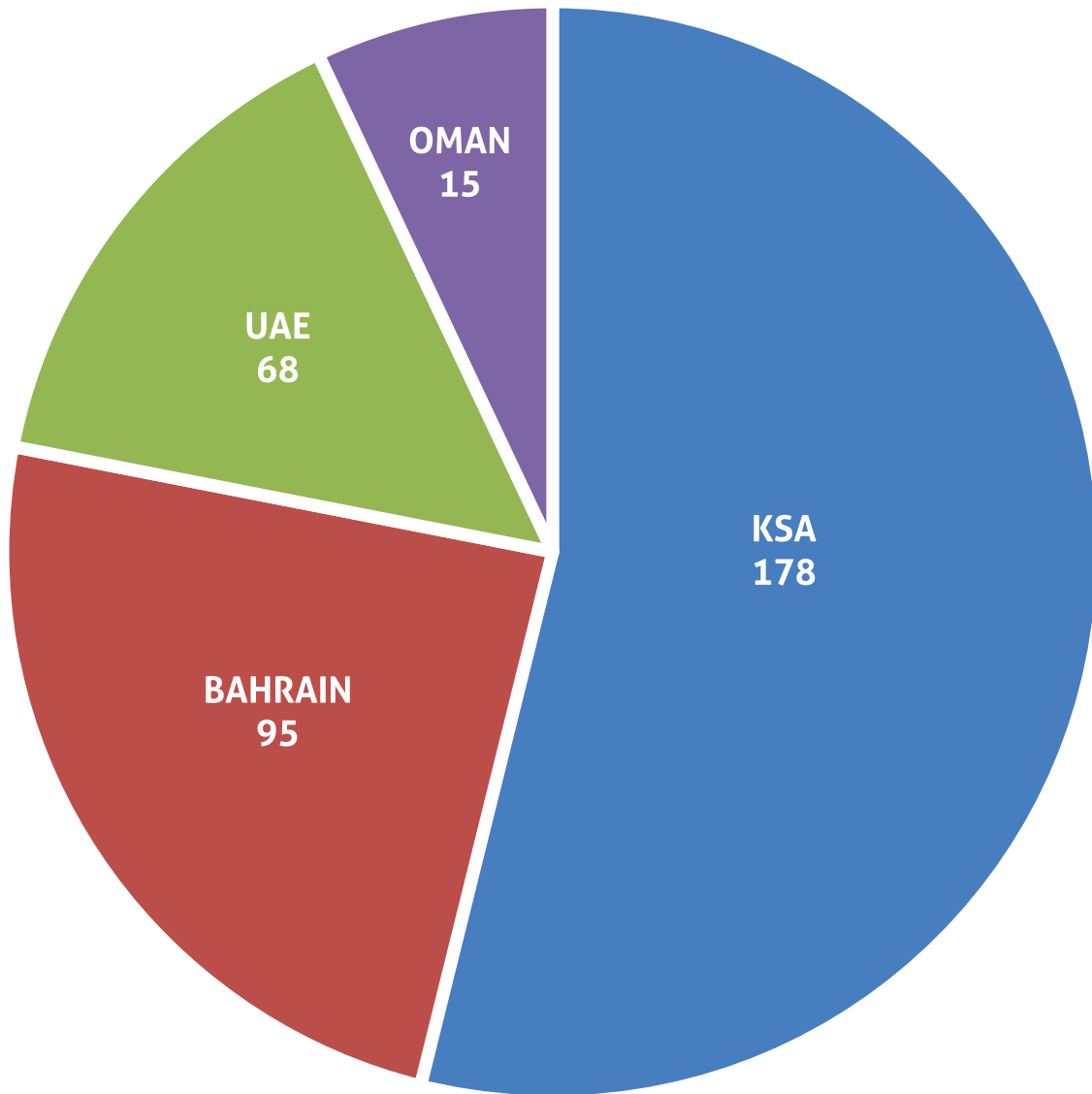
Organization Chart



EMPLOYEE

Employee Chart

Employee Chart



CLIENT DETAILS

Client
Details

Client Details



Saudi Basic Industries Corporation (SABIC)
Vendor No. 504671



Saudi Aramco
Vendor No. 10037273



Saudi Aramco Shell Refinery Co. (SASREF)
Vendor No. 1002511



Sadara Chemical Company
Vendor No. 100002556



Saudi Electricity Company (SECO)
Vendor No. 63718



Saudi International Petrochemical Co. (SIPCHEM)
Vendor No. 101751



Saudi Chevron Philips (S-CHEM)
Vendor No. 125590



Tasnee Petrochemicals
Vendor No. 102206



Advanced Petrochemical Company (APPC)
Vendor No. 100662



Saudi Arabian Mining Company "Ma'aden"
Vendor No. 8315



المؤسسة العامة لتحلية المياه المالحة
Saline Water Conversion Corporation (SWCC)
Vendor No. 3711



Saudi Aramco Total Refining
Petrochemical Company (SATORP)
Vendor No. 11600



Al-yusr Townsend & Bottum Co. Ltd. (AYTB)
Vendor No. 14684



Gs Engineering & Construction
Vendor No. 100670



Sahara Petrochemical Company
Vendor No. 101137



Etec Arabia Ltd. Company



شركة بلفال للصناعات الثقيلة
BILFAL HEAVY INDUSTRIES Ltd.

Bilfal Heavy Industries



Daelim Saudi Arabia Co. Ltd. (DAELIM)



Dresser Al- Rushaid Valve & Instrument Ltd.



HARRIS PYE
Harris Pye Engineering



Sejong Corporation



Oksan Arabia Eng & Const. Co. Ltd.

Mikang Arabia Co. Ltd.



Hanwha Saudi Contracting Co. Ltd.



Azzam Trading & Contracting Co. Ltd



Sinopec E&c Middle East Co. Ltd.



Sanku ARCC Saudi Co.

BUSINESS AREAS

Major
Business Area

Major Business Area

- Civil Engineering Services
- Fibre-Reinforced Plastic (FRP) Services
- Insulation & Cladding Services
- NDT & Inspection Services
- Security & Safety Solutions

ENGINEERING

Civil
Engineering
Services

■ Civil Structural Design Services

Involve our expertise in flawlessly handling of Civil, Residential, Commercial, Industrial and other projects.

Features

- Services handled by experienced team of professionals.
- Experienced team support working towards providing clients professional and innovative service solutions.



Specifications

- Services comprising site visits, concept design & development, liaising with architects & builders/contractors.
- Services aimed at ensuring co-ordinate and smooth running of projects.
- Rich engineering experience allowing us to offer cost competitive solutions.
- Meeting the Commercial, Industrial and Residential structural design needs.
- Expertise in providing structural analysis and design solutions for broad range of structures.
- Experience in working on large number of architectural/industrial projects.
- Also offering solutions for renovation alteration and addition.
- Making use of latest software support to provide for easy-to-interpret structural drawings.
- Expertise in offering creative solutions as per the needs of clients

■ RCC Work

Reinforced Cement Concrete solutions offered are backed by our rich experience in handling RCC tasks for large span structures, Running Plant Industries, Residential & Commercial Buildings

Features

- Expertise in handling work support for RCC structures.
- Service support of experienced professionals.

Specifications

- Can successfully handle projects of varied size and complexity levels.
- Can provide for different structural systems like conventional beams, waffle slabs, steel beams, trusses and others.
- All conceptualization done keeping in mind related safety, practicality factors.
- Expertise in undertaking structural analysis using proven software support.
- Keeping in mind factors like seismic loads, wind loads and others while offering services.
- All solutions delivered come closely reviewed to ensure high accuracy and quality.



■ Surveying

BISCO provides our clients with the surveying edge throughout the project cycle by combining traditional surveying techniques with advanced surveying technology. Our surveying crews are equipped with state of the art Real Time Kinematic (RTK), Global Positioning System (GPS) technology, and conventional equipment for data collection. Professional staff and the latest in technology enable us to provide increased productivity and innovative solutions for clients.

Our services include

- Construction Staking and Building Layout
- Digital Leveling
- Boundary Surveys
- Lot Surveys
- Topographical Mapping
- Subdivision (single family, multi-family, commercial)
- Site Planning and Layout
- Aerial Mapping Ground Control
- Computer Aided Design (CADD)
- Global Positioning Systems (GPS) Static networks
- GPS – Real time stakeout and data collection
- As Built Mapping
- Condominium Mapping
- Improvements Surveys
- Utility and Route Surveys
- ALTA/ACSM Land Title Surveys
Section and Township Surveys
- Project Planning Consultation
- Reconnaissance Surveys
- Soundings and Flow Profiles

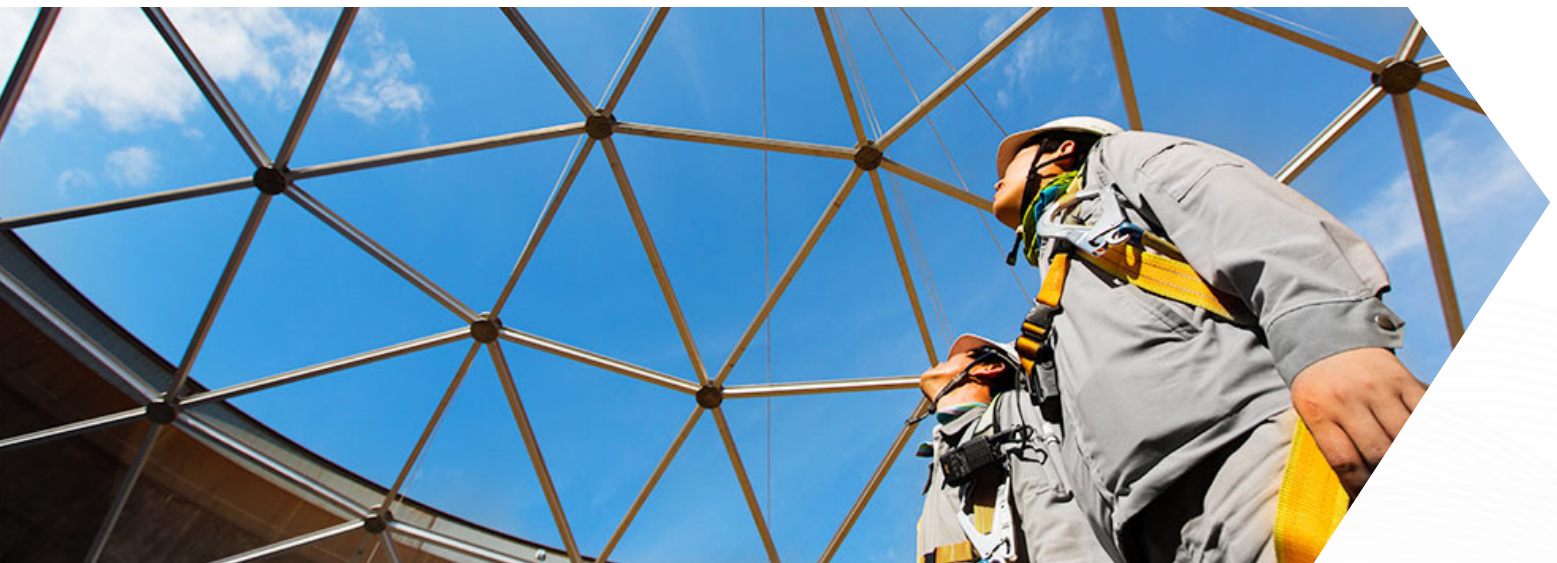
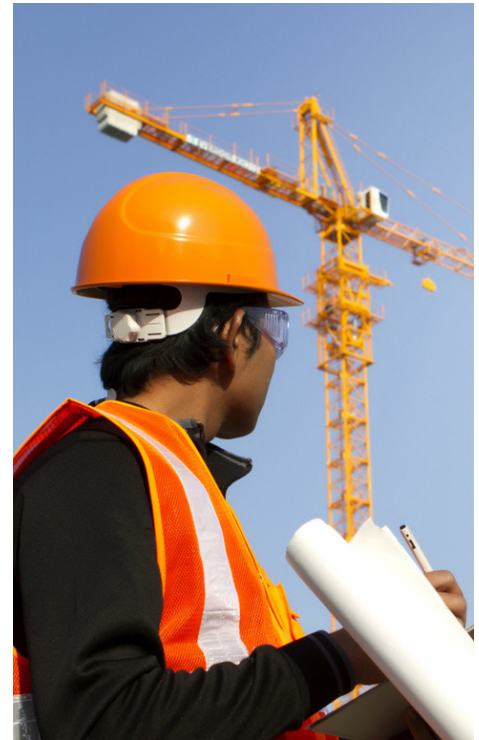


■ Civil Engineering

Mechanical Board Insulation is composed of fine, stable and uniformly textured inorganic glass fibers bonded together by a non-water soluble and fire retardant thermosetting and heat resistant resin, and formed into semi-rigid and rigid rectangular boards or slabs. It is free from coarse fibers and shot due to its mineral composition.

Our services include:

- ▶ Grading & Drainage Studies & Plans
- ▶ PE on a site visit during construction
- ▶ Individual Sewage Disposal System Designs (ISDS)
- ▶ Surface Water Hydrology Studies
- ▶ Storm drainage collection and treatment systems
- ▶ Computer Aided Design and Drafting (CADD)
- ▶ Construction Plans, Specifications and Documentation
- ▶ Feasibility Studies
- ▶ Road and Transportation System Designs
- ▶ Utility Layout and Design
- ▶ Highway Access Plans
- ▶ Earthwork Take-Off and Balance Calculations
- ▶ Construction Observation & Administration
- ▶ Cost Analysis



REINFORCED

Fibre-Reinforced
Plastic (FRP)
Services

Installation of GRP Pipe

Pipe will be laid on the support and lamination will be carried out. Thrust Blocks where required will be built on pipe.

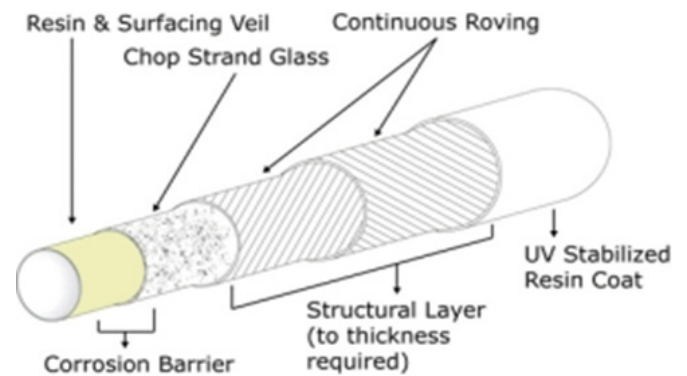
Every pipe will be supported by at least two cradles and anchored at one of these. The remaining cradle will be designed as guide, allowing longitudinal expansion of the pipe but restraining lateral movements. For pipes supported in more than two cradles, the cradle closest to the middle of the pipe will be used as an anchor. The anchors will be located with regular spacing in order to ensure even distribution of longitudinal pipe expansion on the joints.

The inside of the cradles will be covered with a 5 mm thick cradle liner to avoid direct contact between pipe and cradle. Liners will be made from materials that are resistant to the actual environment like EPDM. High friction liners will be applied at anchors while low friction liners shall be applied at guides. The pipe supports are designed as anchors or guides. Anchors are designed to restrain pipe movement. Guides are designed to allow the pipe to expand in the longitudinal direction but restrain it from any lateral displacement.

Aboveground pipes will be supported appropriately to withstand the actual load caused by

- External and environmental loads
- Weight of pipe and fluid.
- Reaction forces caused by internal pressure.

Friction induced in couplings and against guides in case of temperature and/or pressure variations.

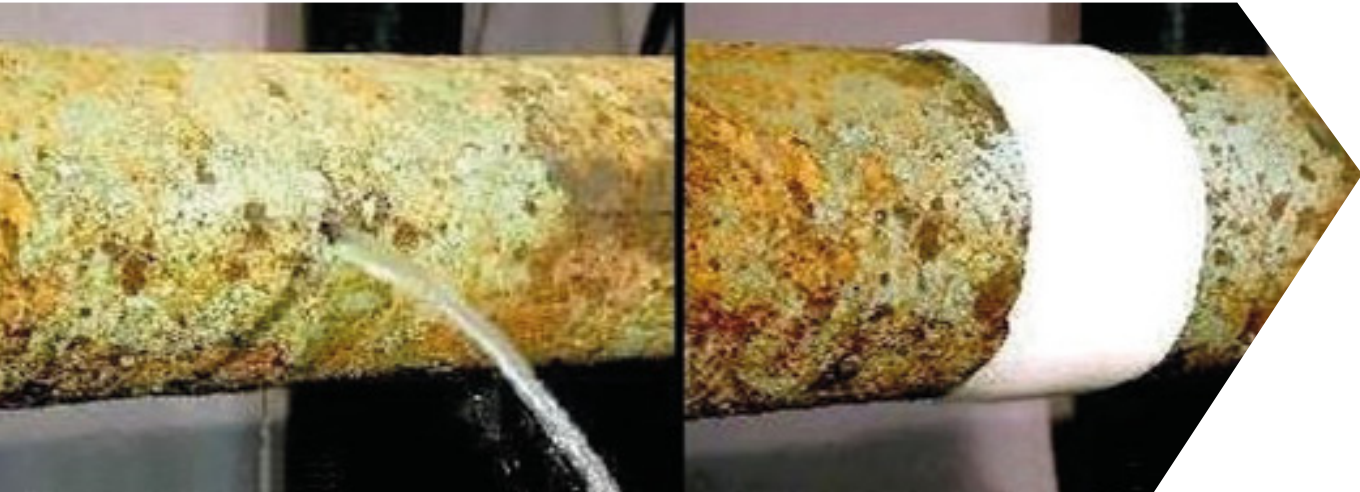
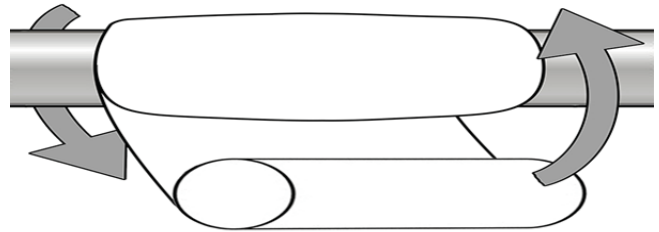


Repair of GRP Pipe

Typically, damaged pipe can be repaired quickly and easily by qualified personnel at a jobsite. The repair design depends on the wall thickness, wall composition, application, and the type and extent of damage. Structural fracture of the pipe wall is evaluated on a case-by-case basis to provide repair sufficient to restore the original pipe strength.

Repair of damaged or leaked GRP Pipes will be carried out using similar type of resin and glass as that of original pipe. The damaged section of the pipe will be either repaired by overlay after grinding off the damaged area or the pipe section will be cut off, a new pipe will be introduced and laminated.

Similarly leaks from the joint will be repaired either by replacing the joint with the new one or through lamination. New connection will be provided from the existing line by providing appropriate branch and saddle.



■ Tanks

Both Horizontal and vertical storage tanks in various capacity will be provided for different fluid like Raw water, Potable water and Sea water. Similarly underground fuel storage tank can be supplied. Fiberglass fuel storage tanks can be used to store gasoline, aviation fuel, gasohol (90% gasoline and 10% ethanol mixture), Jet fuel, Diesel, potable water and waste water at ambient underground temperature. Fiberglass tanks are impervious to the effects of external corrosion. As fiberglass tanks are not susceptible to corrosion they are maintenance free.



■ Lining

Lining will be done as an anti corrosive barrier layer for interiors of tanks, process equipment as well as Concrete floor. The lining will be done either by Hand lay up or spray layup and different resin, namely polyester, Vinyl ester and Epoxy, will be used as the application may require.

Lining of surface is normally required when it is subjected to corrosive chemical or environment, lining protects the surface hence increase the service life.

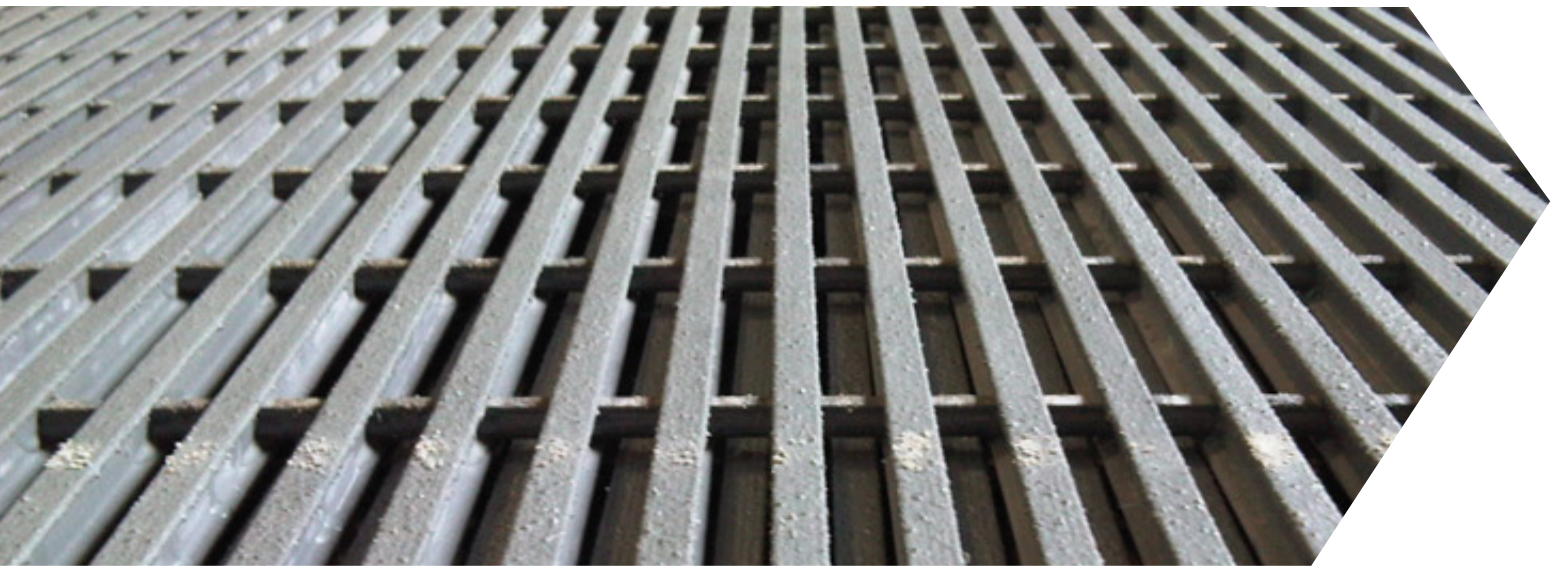


▀ Grating

In places where the service fluid or the spillage is corrosive, steel grating does not provide a long service life and has to be replaced frequently in such places GRP gratings are used. GRP grating are available in various sizes and shape as the application may require. These gratings are resistance to acidic as well as alkaline environment. They are available in various resins system like polyester, Vinyl ester and Epoxy.

Fiberglass Grating products have become a viable replacement for many traditionally metal items such as galvanized grating and stair platforms and industrial flooring. There are many advantages that Fibreglass Grating has over metallic materials. Fiberglass Grating does not corrode, it is easier to work with, requires no painting, and can incorporate abrasive substances to reduce slips, quite apart from being easier to work with than metals.

Available in a wide range of panel sizes, colors and depths ranging from 12 mm up to 50mm. The fiberglass grating is corrosion resistant, fire resistant, anti-slip, impact resistant and lightweight

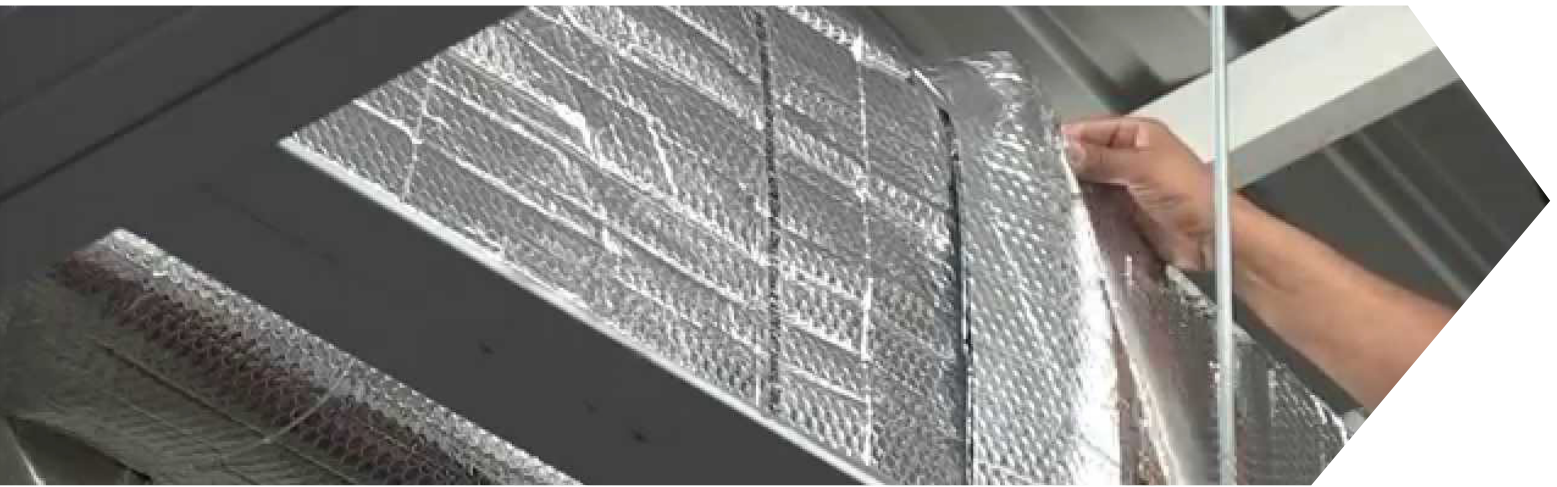


INSULATION

Insulation &
Cladding
Services

Multi layer insulation and cladding

Multilayer insulation, the most common form of radiation shielding used in cryogenic systems, is also called super insulation for a reason. When properly installed it is a relatively low cost and highly effective thermal insulation system. However, when improperly installed, that effectiveness will be degraded. The effects of poor installation technique can range from almost unnoticeable to severe, depending upon the misapplication.



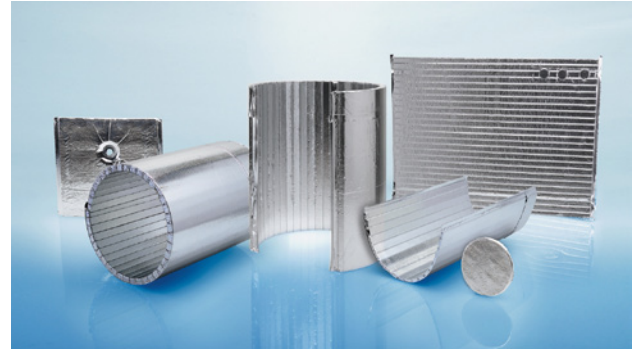
Faced Duct Wrap Insulation (FDW)

Faced Duct Wrap Insulation is highly efficient, resilient, flexible blanket insulation composed of fine, stable and uniformly textured inorganic glass fibers bonded together by a non-water soluble and fire-retardant thermosetting and heat resistant resin. It is free from coarse fibers and shot due to its mineral composition.

Faced Duct Wrap Insulation is manufactured in a roll form and subsequently faced on one side by factory laminators, with a suitable vapor retardant Aluminum Foil Reinforced Kraft Paper Laminate (FRK), All Service Jacket (ASJ) or other specific vapor barrier for installation on the exterior of ductwork. The facings have UL fire resistant ratings.

Heat Insulation

Thermal insulation is the reduction of heat transfer (the transfer of thermal energy between objects of differing temperature) between objects in thermal contact or in range of radioactive influence. Thermal insulation can be achieved with specially engineered methods or processes, as well as with suitable object shapes and materials.



Heat flow is an inevitable consequence of contact between objects of differing temperature. Thermal insulation provides a region of insulation in which thermal conduction is reduced or thermal radiation is reflected rather than absorbed by the lower-temperature body.

Acoustical Ceiling Panels (ACP)

Acoustical Ceiling Panels are composed of fine, stable and uniformly textured inorganic glass fibers bonded together by a non-water soluble and fire-retardant

Thermosetting and fire resistant resin. They are free from coarse fibers and shot due to their mineral composition. Acoustical Ceiling Panels are faced with abuse-resistant washable PVC film facing.

Standard available facing:

- Random Fissured
- Shasta
- Woven Mat
- Vinta



■ Mechanical Board Insulation (MBD)

Mechanical Board Insulation is composed of fine, stable and uniformly textured inorganic glass fibers bonded together by a non-water soluble and fire retardant thermosetting and heat resistant resin, and formed into semi-rigid and rigid rectangular boards or slabs. It is free from coarse fibers and shot due to its mineral composition.



Mechanical Board Insulation is available unfaced or with one side factory-applied Aluminum Foil Reinforced Kraft Paper Laminate (FRK), or a white All Service Jacket (ASJ) to give a pleasing appearance vapor barrier. The facings have UL fire resistant ratings.



INSPECTION

NDT &
Inspection
Services

Advanced NDT Services

▶ Tube Inspection Services

BISCO'S Services provides a comprehensive inspection program consisting of multiple tube inspection techniques, to determine the integrity of heat exchanger tube bundles. A variety of state of the art inspection methods such as: Eddy Current Testing (ET) of non-ferrous tubing and Remote Field Inspection (RFT) of ferrous tubing are supplied by MISTRAS Services. A Remote Visual Inspection (RV) is typically employed for follow-up inspection of defective tubing to aid in root cause analysis.

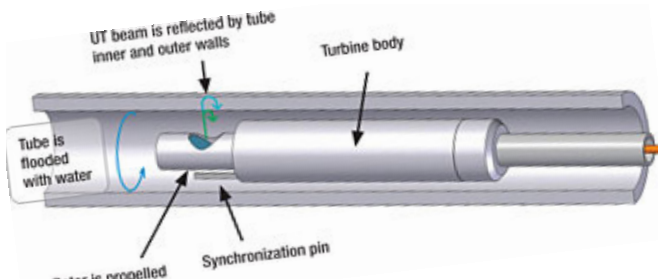
▶ IRIS Tubular Inspection

BISCO utilize the most advanced IRIS technologies for heat exchanger tubular inspection. BISCO currently use the Olympus NDTMS 5800 ER1U, instruments for our tube testing instruments.

This instrument has the capabilities of presenting a "Real-Time C-Scan of the IRIS data as it is being inspected. This is a great aid in helping the Technician or Operator to visually pin point flawed areas in the tube on the fly. All of the IRIS data is stored for post analysis of the data and archived for future needs.

We are doing inspection in the following auxiliaries,

- ▶ Boilers
- ▶ Feed water heaters
- ▶ Air coolers
- ▶ Heat exchangers



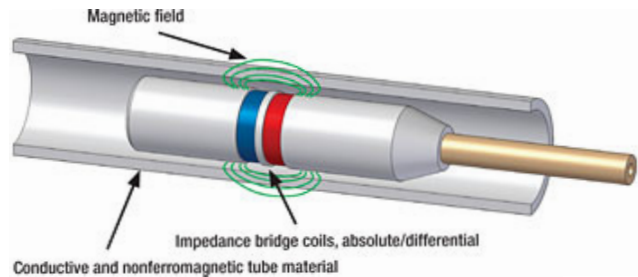
➤ Eddy Current Testing

Eddy Current Testing is the fastest way to assess the condition of non-ferrous tubing in chillers, condensers, feed water heaters and evaporators. With data collection speeds twice that of any other inspection method, work is performed swiftly and efficiently. Our clients are provided with immediate results or the data is stored and reviewed at a remote location. We also perform trending analysis as an option. Results are accurate and require little or no follow-up scrutiny.

BISCO using MS5800 equipment for tube inspection with Eddy current Testing .We are doing inspection in the following boiler auxiliaries,

- Condensers
- Feed water heaters
- Heat exchangers
- Air Conditioners

This technique is suitable for the detection and sizing of metal discontinuities such as corrosion, erosion, wear, pitting, baffle cuts, wall losses, and cracks in nonferrous materials.



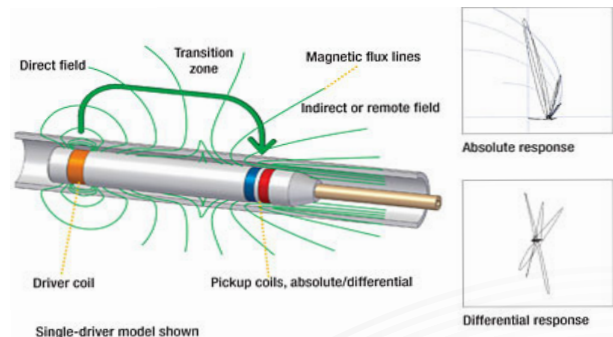
➤ Remote Field Testing (RFT)

BISCO using MS5800 equipment for tube inspection Remote field testing & Magnetic Flux Leakage

We are doing inspection in the following auxiliaries,

- Boilers
- Feed water heaters
- Air coolers
- Carbon steel heat exchangers

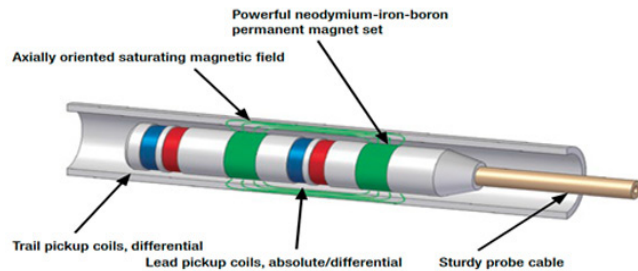
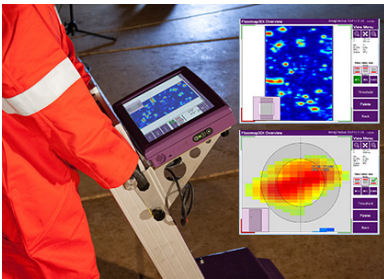
Remote field testing (RFT) is being used to successfully inspect ferromagnetic tubing such as carbon steel or ferritic stainless steel. This technology offers good sensitivity when detecting and measuring volumetric defects resulting from erosion, corrosion, wear, and baffle cuts.



➤ Magnetic Flux Leakage Testing (MFL)

Magnetic flux leakage (MFL) is a fast inspection technique, suitable for wall-loss measurement and detection of sharp defects, such as pitting, grooving, and circumferential cracks. MFL is effective for aluminum-finned carbon steel tubes, because the magnetic field is mostly unaffected by the presence of such fins.

BISCO also has silvering's floor map VS2 equipment for Magnetic flux testing on Tank floors.



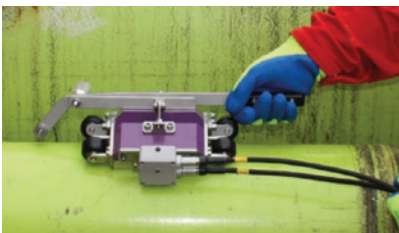
➤ Long Range Ultrasonic Testing (LRUT)

Long range ultrasonic testing is a rapid way of screening for corrosion in pipelines. The method enables screening of up to 100 meters of pipeline in one test, i.e. 50 meters in both directions.

By fitting a ring of transducers around the pipeline, a wave maker device directs low frequency (20-100 kHz) ultrasonic waves via the transducers, longitudinally into the pipeline wall. The method effectively detects changes in the pipeline's cross-section, enabling it to identify corrosion and other abnormalities. At the same time this provides the possibility of using welds and flanges as distance references.



➤ Pipe inspection using MFL



BISCO has silverwing's pipe scan equipment for magnetic flux leakage testing on pipes. The latest magnetic material coupled with unique mechanical designs enables coverage of all pipe diameters from 50mm to 2.4 meters with a limited number of scanning heads. Magnetic flux leakage inspection is not affected by product flowing through the pipe so surveys can be carried out both on-line and off-line and at surface temperatures up to 90°C.

➤ Boroscopic Inspection

Bisco Offers Boroscopy to visually inspect hard reach zones to find surface defects, general condition, degradation, blockages & foreign materials in Electrical generators & transformers, Boilers, pressure vessels, pipelines, Gas, steam & wind turbines, condenser tubes, drums, pumps, heat exchangers & various plant components without teardown. They can be used to check pitting, cracks, corrosions, erosions, weld defects & other problems quickly & easily.



➤ Phased Array Inspection

BISCO has Omni scan with phased array module for inspecting the cross country pipelines. This is the instrument from Olympus NDT, Canada. This Omni scan was well supported by Tom view software for offline analysis.



➤ Time-of-Flight Diffraction (TFOD)



BISCO uses Omniscan from Olympus, Canada to carry out this effective technique. Omni Scan UT allows inspections simultaneously combining TOFD with conventional pulse echo. Pulse echo complements TOFD and covers the dead zones.

➤ Pipe line Automated UT (AUT)

BISCO have weldstar equipments of GE inspection technologies which is a most advanced automated ultrasonic girth weld inspection system using phased array technology for cross country oil & gas transmission pipeline projects. Pipes are girth-welded on site, typically using automated welding. Then, they are rapidly inspected, coated, and buried. Due to the demanding construction cycle, it is important that any defect in the welds be detected and analyzed very quickly.



➤ **Omni Scan 2-channel UT B-Scan for Corrosion Mapping**
BISCO, a leader in nondestructive testing technologies, is providing the Omni Scan® channel Ultrasound B-Scan for Corrosion Mapping -the newest Omni Scan-based NDT solution from Olympus NDT, Canada. This kit includes the OmniScan MX UT instrument, the manual Remote Scan B-scan position encoder, TomoView Lite software, and a dual-UT



➤ **Positive material identification (PMI)**

A state of the art portable X-ray Fluorescence Spectrometer which uses an X-ray tube Instead of a radioactive source, and provides much quicker analysis times. BISCO utilize this type of equipment in the petro chemical and power industries, however it could be used in all applications where a client may need to find what material is being bought as crosscheck to the mill certificates.



■ Conventional NDT Services

➤ **Ultrasonic Testing**

BISCO Provides Ultrasonic Shear wave inspection to inspect the welds of piping, pressure vessels & other process equipments on the construction projects & process plants. We also offer Ultrasonic Longitudinal wave inspection to perform thickness measurements & corrosion scanning & mapping on the plant piping & pressure vessels as per API 510 & API 570



► Radiography Testing

BISCO uses various radiation sources to inspect welds of pipes, pressure vessels & other process equipments of construction projects & process plants.



► Magnetic Particle Testing



BISCO offers Magnetic particle inspection of surface & subsurface discontinuities utilizing a permanent or electromagnetic yokes for inspection of materials & welds of pipes, pressure vessels & other process equipments on the construction projects & process plants.

► Penetrant Testing

BISCO offers Liquid Penetrant testing of surface discontinuities to inspect materials & welds of pipes, pressure vessels & other process equipments on the construction projects & process plants.



► Holiday Testing



Holiday test or a Continuity test is one of the non destructive test method applied on protective coatings to detect unacceptable discontinuities such as pinholes and voids. BISCO offers holiday testing for coating inspection.

► Vacuum Box Leak Testing

BISCO offers Vacuum box leak testing to locate leaks in pressure boundary that cannot be directly pressurized like annular joints, bottom (long seam & short seam) & welding joints for annular & bottom plates.



► Hardness Testing

Hardness will give relevant idea about the strength, wear resistance & other properties of the material. BISCO offers latest technology hardness tester for getting the more reliable & on the spot results.

► Ferrite Testing

BISCO offers on-site ferrite content measurement in Duplex steel, Austenitic steel welds (tube, sheets), Normal steel with austenitic chrome alloy steel welded cladding (boiler, vessels) with the latest technology.



► Digital Radiography

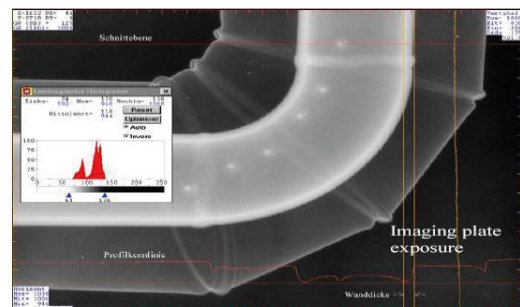


Benefits

- Imaging plates are phosphor based and can be re-used unlike conventional RT films.
- Exposure times are much lesser than equivalent exposure time for AGFA D7 film.
- Software for measurement and reporting.
- All the advantages of RT over UT in thickness measurement.
- No dark room or chemical disposals. No special space for storage of films.
- Easy Digital archiving, distribution of images via Internet, e-mail or CD.



Thickness Measurement using CR



CR - Thickness Measurement Under Insulation

Features

- Rhythm RT (Acquire) - Customizable menus.
- Rhythm Review - Application tools for analysis, enhancement, measurement, reporting and storage of received data.
- Rhythm Archive - Delivers a complete, scalable and flexible vendor neutral DICOM data storage solution even for implementation in enterprise networks.



➤ SafeRad Radiography System

24 Hour Continuous Radiography - Zero interference with other operations

SafeRad are established pioneers of Small Area For Exposure Radiography (SAFER). We deliver a non-intrusive radiography service transforming traditional radiography downtime into productive time.

- Barriers are set at 1.5m or less.
- Controlled area is easy to monitor.
- No impact on other nearby activities or personnel.

Small
Area
For
Exposure
Radiography

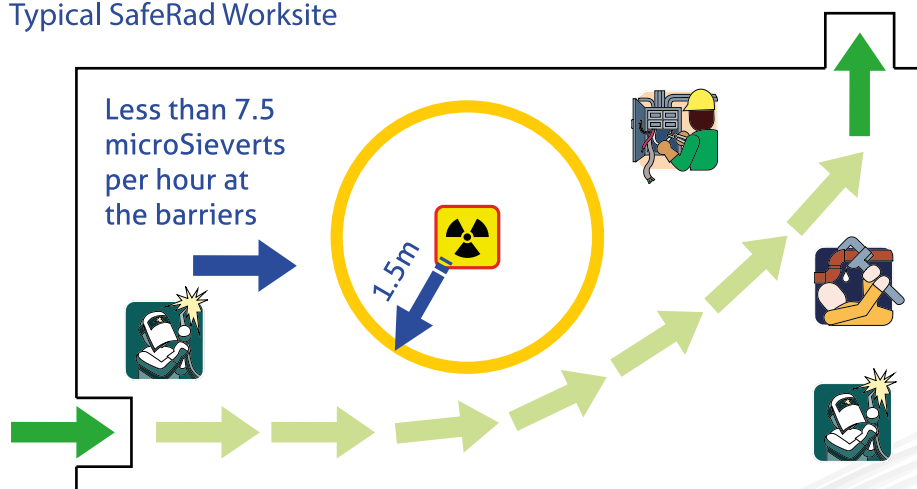


GammaBlok
Attenuates Radiation
Very Flexible

The SafeRad Radiography System achieves:

- Unprecedented radiation safety benefits acknowledged by the UK Health and Safety Executive.
- Assists in accelerating construction and maintenance programmes, leading to massive savings.
- No downtime due to radiography sessions.
- Superior radiographs using conventional films improved sensitivity, contrast and definition.
- No limitations on platework, pipework size or configuration - can be used anywhere.
- Effective corrosion monitoring profile radiography.

Typical SafeRad Worksite



SafeRad
Creating a
SAFER
Working
Environment

Heat Treatment Services

Post Weld Heat Treatment Services (PWHT)

Post Weld Heat Treatment Services (PWHT) is defined as one of heat treatments done after welding/machining to improve the Chemical mechanical properties of weldment / machined surfaces. In concept, PWHT covers many different potential treatments. However, in steel fabrication, most common procedure used is Stress Relieving.

Post weld heat treatment reduces the residual stresses formed during welding. It also restores the macro structures of the steel. PWHT requirements are to be strictly followed in high pressure applications to avoid component failure.

PWHT eliminates the effects by heating, soaking & cooling the weld area in controlled manner to temperature below the first transformation point, giving the macro structure sufficient time to readjust to its original state & removing the residual stress.

Heat Treatment Services

BISCO offers Heat treatment services such as stress relieving, normalizing, solution annealing, hydrogen diffusion, intermediate stress relieving, tempering etc. BISCO provides post weld heat treatment by using electricity as source of heating for stress relieving of weld joints as well as also uses diesel fuel as source of heating for stress relieving for pressure vessels. Our heat treatment services are designed to minimize downtime, improve structural integrity, and enhance effective plant life. Additionally, depending on the mobility of the required equipment many of our heating processes can be applied on-site or at your facility.

Heat treatment process is carried out by using following methods

- Electrical Resistance Heating Method
- Internal Heating Method using Gas / Oil Fired High Velocity Burner.
- Temporary Gas / Oil / Electrical Fired Furnace.

Product Range

- Furnace Equipments
- Heat Treatment Equipment – Mobile

➤ Internal Heating Method

Jobs such as Horton Sphere, Mounded Bullet, Thin Wall Tank, LPG Bullet, Columns, Pressure Vessel, Penstock can be heated by internal heating method using Gas, Oil fired burner system. Other jobs, which required Refractory Dry out and Coating Curing, can also be performed using internal heating method.



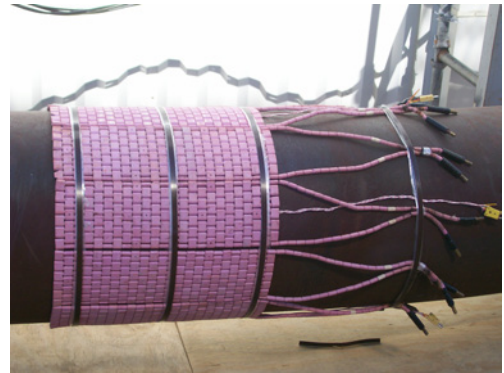
➤ Temporary Furnace Heating Method



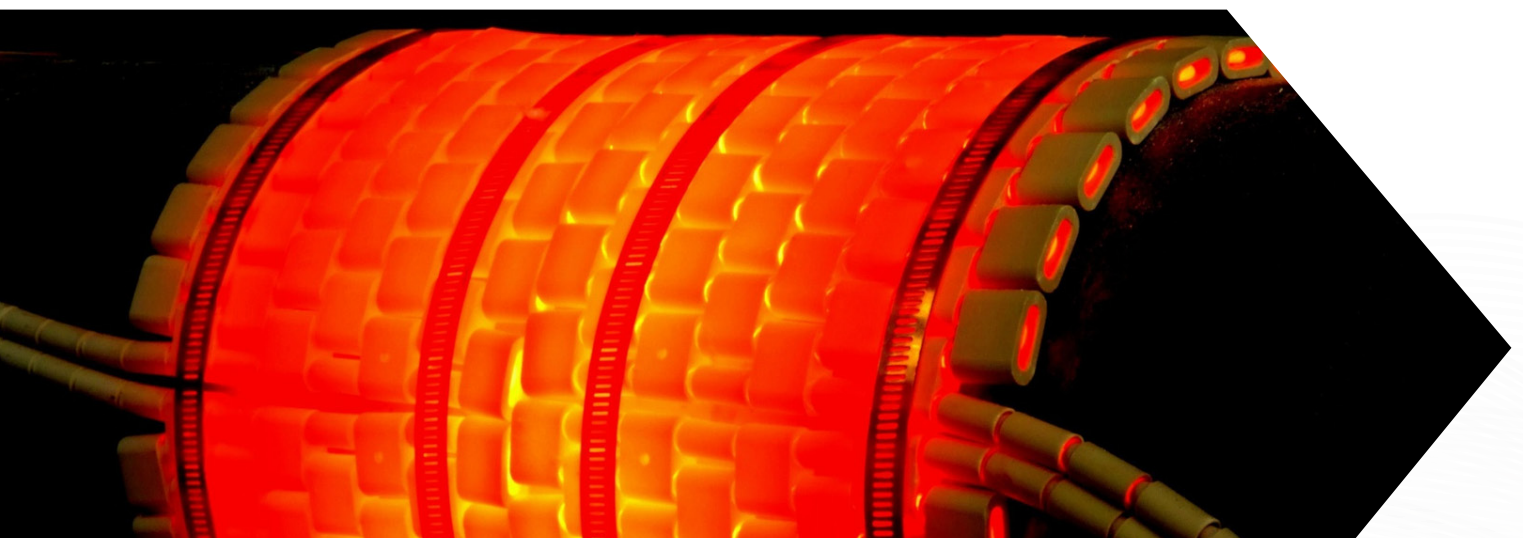
The Pressure Vessel, LPG Bullet & Structural in bulk quantity can be heat treated in Permanent or Temporary Furnace using Electrical Gas or Oil Firing method.

➤ Local Electrical Heating Method

Various pipes, Cir Seam joints, heat exchangers & Structural jobs of intricate shape can be heat treated-using Electrical Heating Method.



BISCO has specialized personnel and equipment to carry out a wide range of heat treatment processes like post weld heat treatment of vessels, piping, spheres and fabricated spools , local Post weld heat treatment of carbon steel piping welds (pipe-work, headers, flange joints, valves and branches) by means of the electrical resistance method, in the form of ceramic heater pads.



➤ PWHT Equipment

All PWHT equipments are well maintained & have a valid current calibration certificate. Electric power sources are 380/440V 3 phase 50Hz primary supply step down transformer secondary output (heat treatment unit) giving low voltage circuits. Temperature control equipment is either manually operated through energy regulators or automatically operated using modular controls. Recording of temperature, for the electrical resistance method, or the induction heating method is by means of calibrated chart type temperature recorder. Calibration frequency of recorders will be one year.



➤ BISCO Reference Codes and Standards for Heat Treatment

ASME B31.3: Process Piping

ASME Sec IX: Welding and Brazing Qualification

AWS D10.10: Local Heat treatment of Welds in Piping and Tubing.

■ Inspection Services

➤ Turnaround & Inspection Support Services

BISCO provides the complete T & I Support by providing experienced inspection personnel like.

- Inspection Engineers
- API Inspectors
- Plant Inspectors (Static & Rotatic)
 - QA/QC Inspectors
 - Welding Inspectors
 - Coating & Painting Inspectors
 - Level III Consultancy
 - Multi- Discipline NDT Technicians

Pre-Turnaround Work

The planning of the turnaround is one of the most important steps in having successful turnaround. The BISCO has an experienced team of inspectors and planners to assist the client in the planning stage. We stall all inspection craft necessary to plan any size turnaround.

The next step in a successful turnaround is having certified and knowledgeable inspectors. The BISCO provided these key personnel on every job. We staff inspectors with API, AWS, and ASNT certifications. This allows a "one-stop shop" for the client and reduces cost and time spent on acquiring outside resources.

Post-Turnaround Work

The final and major step for any successful turnaround is the post-around work and documentation. The BISCO provided the client with the resources necessary to ensure all inspection activities are they properly updated and documented as per API 510 & API 570. We can assist in Pre-Startup Audits, updating existing mechanical integrity programs, participating in post-turnaround reviews.



➤ Welding Inspection / Supervision

The majority of larger clients employ welding inspectors on a full time basis but require from time to time during larger pipeline or plant construction qualifies welding inspectors.

The inspectors who are employed by BISCO and contracted to our clients are qualified to A.W.S., C.S.W.I.P., or British Gas (E.R.S) the services they provide onsite are numerous, ensuring contractual specifications are adhered to, welder qualification tests, producing welding procedures, interpretation of X or Gamma ray radiographs, monitoring welding on pipeline barges and various other tasks.



NDT Level III Services

Whenever any type of NDT is required, BISCO NDT Level III's can help you feel secure that it is being performed correctly. Our personnel are ready to travel worldwide to wherever required. Our Level III engineer is highly qualified having an ASME Level III certificate for the various NDT methods including PT , MT, RT , UT , ET ,VT etc..



Training & Consultancy

BISCO offers NDT training courses & consultancy Services. BISCO offers NDT Level III Consultancy for NDT procedure preparation, Review & Approval, ASME Audits etc. Also our Professional instructor share their knowledge which complies with international standards such as ASNT, API, AWS,ASME , ASTM,etc. BISCO offers NDT Level I & Level II Training & Certification courses in following methods.

- 1) Ultrasonic testing
- 2) Magnetic particle testing
- 3) Radiography testing
- 4) Visual Testing
- 5) Penetrant testing
- 6) Eddy current Testing



SECURITY

Security &
Safety
Solutions

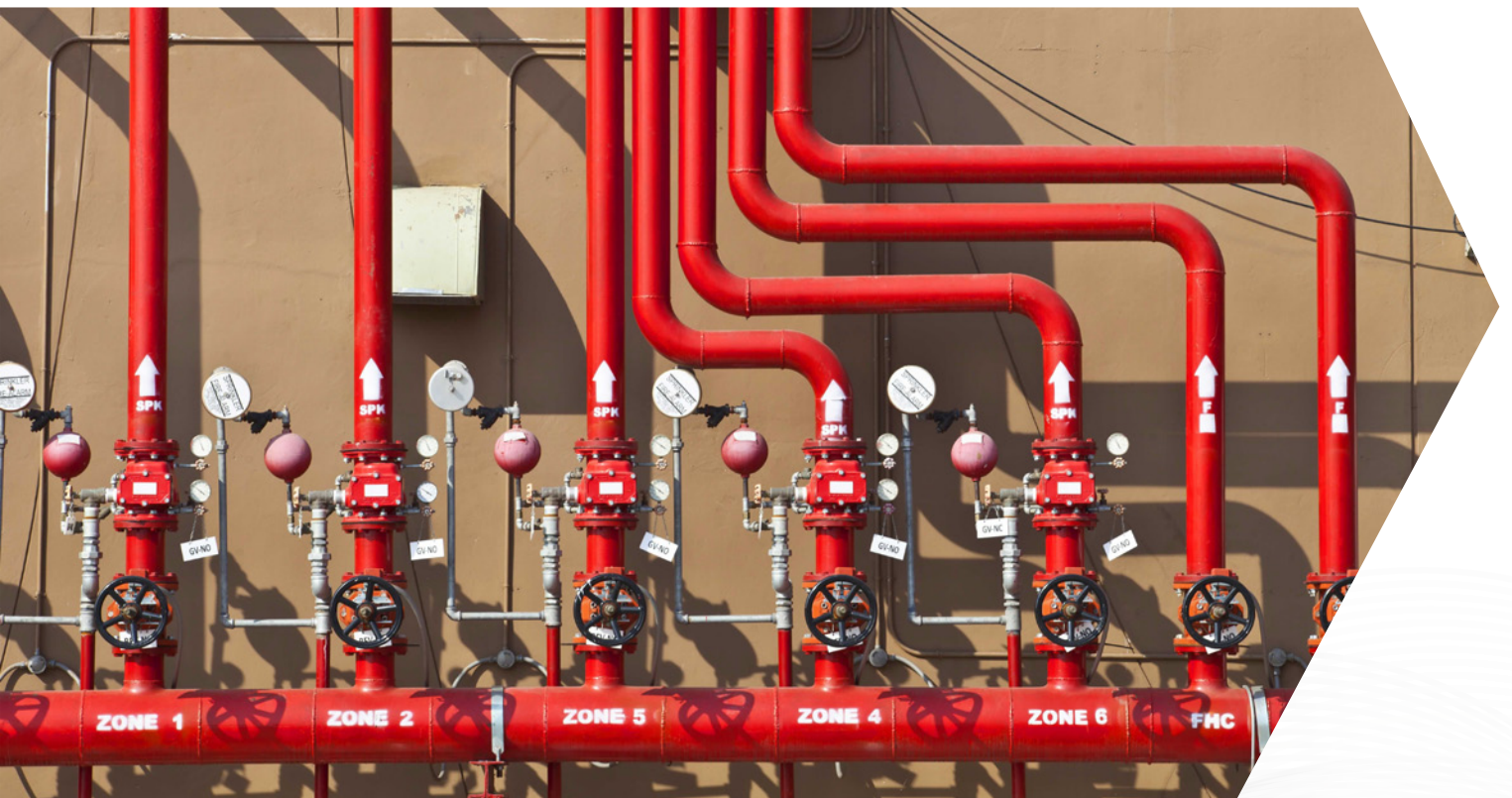
■ Integrated Security & Communication Systems

- Industrial Security System
- Commercial Security System
- Building Management System
- Fiber Optic Intrusion Detective System
- Security Microwaves Alarm Solution
- Alarm Management System
- Fiber Optic Solution
- Fixed and PTZ Camera Solution
- Turnstiles & Sliding Gates
- Road Barriers and Blockers with Access Control System
- Maintenance and Services for Industrial Security and Access Control System
- Access Control and Time & Attendance System
- Public Address System



■ Fire Protection Systems

- Fire Alarm System
- Fire Fighting & Fire Protection System
- Supply of Fire Equipment's
- Maintenance of Fire Alarm and Fire Fighting System

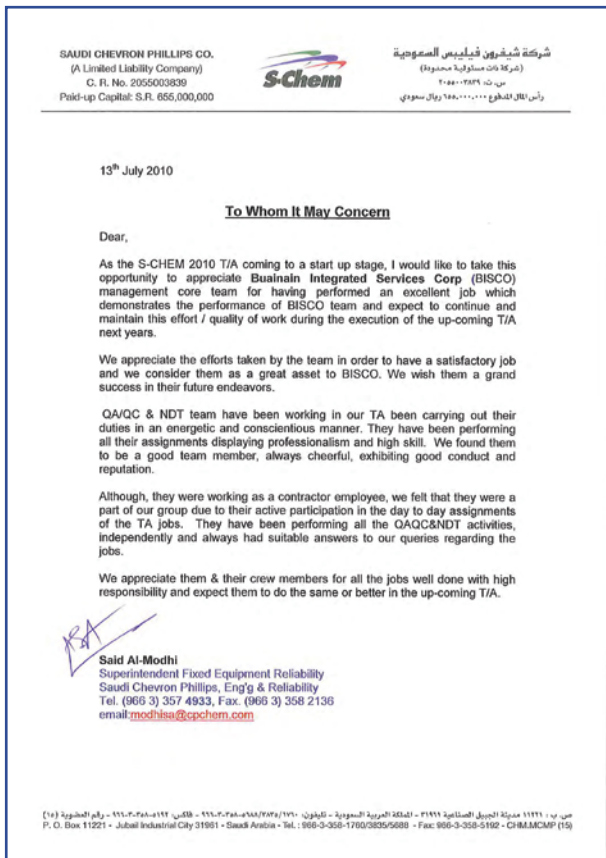


CERTIFICATE

Certificates
of Appreciation

Certificates of Appreciation

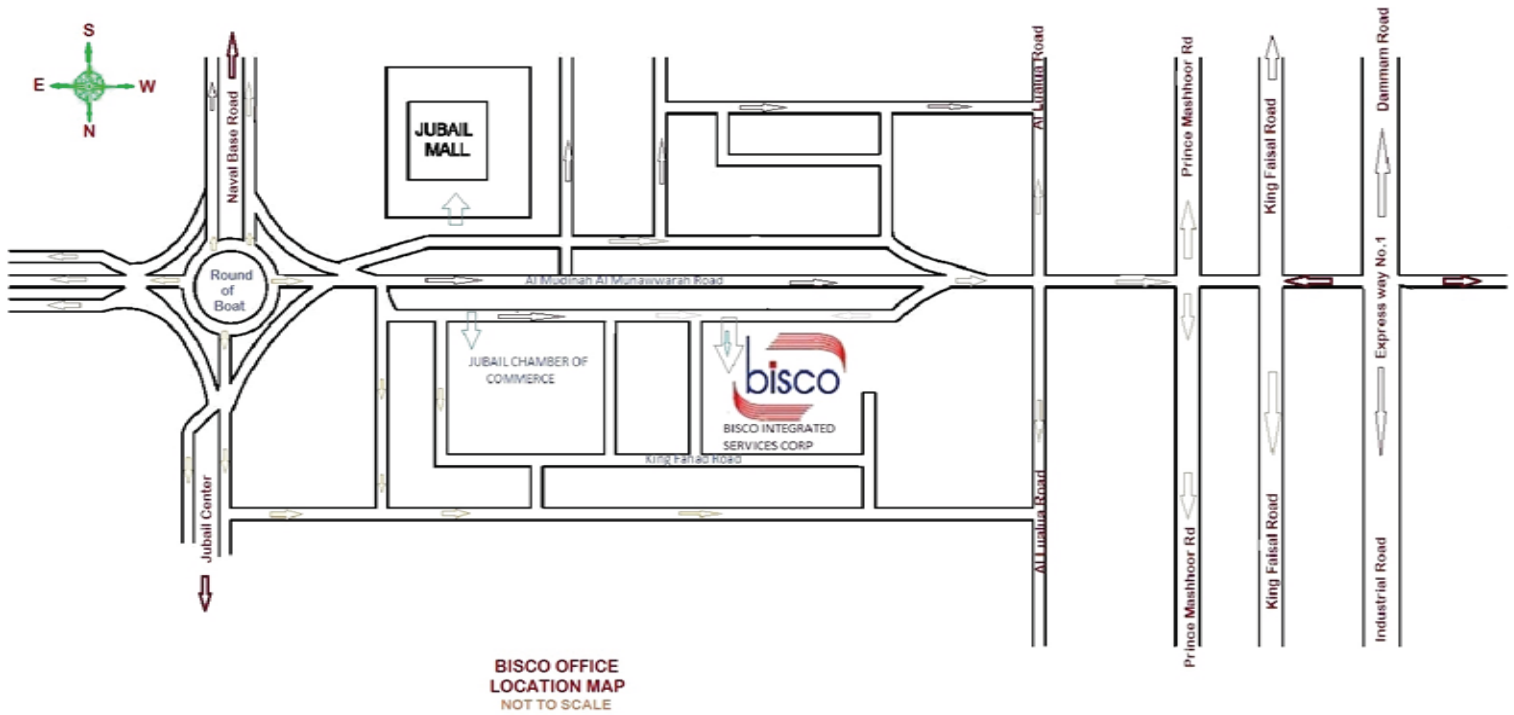




LOCATION MAP

Location
Map

Location Map





شركة بيسكو للخدمات الصناعية المحدودة
Bisco Integrated Services Co. Ltd.



THANK YOU

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