



Brotherhood

Inspection Technology Services

Company Profile



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About BTECH

Brotherhood Technical Services Company

- » Has been operating in the kingdom for more than a decade since 2008 as one of the leading Operation & Maintenance, NDT & Third-Party Inspection company
- » Have activities in Non-Destructive Testing, Corrosion Monitoring Services, Operation & Maintenance, Consultation & Technical Training
- » Offers timely solutions, professional experts' advices and support to various sectors in KSA and the region
- » Provides services to oil-field, petro chemical construction, fabrication marine, aviation and allied support industries
- » Is led by highly experienced personnel
- » It builds a credible reputation among major industrial sectors in the kingdom

What We Stand For

Vision

- » To be one of the market leaders in the field of Non-Destructive Testing, Third Party Inspection, Operation & Maintenance through innovation, experience and the use of cutting-edge technology.

Mission

- » To understand the current and future needs of our clients and strive to exceed their expectation through providing professional services in terms of quality, price, time, safety, and respect for the environment.



What We Stand For

Commitment to Quality

- » We strive to always improve the quality of our services by continual self-assessment, performance evaluation and technology upgradation in order to deliver the highest level of quality to our clients.

Accreditation

- » Btech has integrated Quality Management System (QMS) in compliance with the requirements of the ISO 9001:2015 Standard
- » Btech personnel and technicians are qualified and certified in accordance with various certification programs requirements ASNT, AWS, API, CSWIP & more.



SERVICES

1 Conventional NDT Methods

- ✓ Ultrasonic Thickness Testing & Flaw Detection (UT)
- ✓ Magnetic Particle Testing (MT)
- ✓ Liquid Penetrant Testing (PT)
- ✓ Radiographic Testing (RT)
- ✓ Visual Testing (VT)
- ✓ Penetrant Testing
- ✓ Hardness Testing
- ✓ Positive Material Identification (PMI)
- ✓ Ferrite Testing
- ✓ Leak Detection



SERVICES

2 Advanced NDT Methods

- ✓ (RFT) Remote Field Testing - Tube Inspection
- ✓ (ECT) Eddy Current Testing - Tube Inspection
- ✓ (MFL) Magnetic Flux Leakage - Tube Inspection
- ✓ (IRIS) Internal Rotary Inspection System - Tube Inspection
- ✓ Borescope Testing
- ✓ Magnetic Flux Leakage (MFL) - Tank Floor Inspection
- ✓ Phased Array (PAUT).
- ✓ Time Of Flight Diffraction (TOFD).
- ✓ AUT of pipeline welds
- ✓ Long Range Guided Wave Inspection
- ✓ Corrosion Mapping
- ✓ X Ray Crawler for Pipelines



Positive Material Identification (PMI)

PMI is used to verify the composition of a material or when the material testing certificate is not available and for material traceability.

The X-Ray Fluorescence (XRF) Principle

X-MET8000 can provide results on site in seconds, depending on the application. Phenomenal reliability and speed, with no requirement to return for lab assessment, mean optimum productivity, lower costs and an all-important edge over your competitors. Data can be stored on the analyzer, on a USB flash drive, or through our app and cloud service for immediate sharing.



Spark Emission Spectrography

Spark mobile optical emission spectrometers (OES) excel at providing full chemistry of critical alloy elements at low detection limits that handheld X-ray and LIBS analyzers can't: carbon, phosphorus, sulfur, boron, arsenic and tin in low alloy and stainless steels, and nitrogen in duplex steels.

That's why spark OES is the most trusted and widely used method for creation and verification of MTR's (mill testing reports) in the world. Our mobile and portable spectrometers also meet the world's most stringent PMI metallurgical alloy chemistry testing requirements including API 5L testing, API RP578, ASME section IX B& PV, ISO 17025 and A2LA standards.



Remote Visual Inspections

- PTZ HD30 Camera

Visual inspections are by far the most performed industry inspection. The PTZ HD30 is a powerful industrial graded inspection camera for remote visual inspections. The camera is equipped with a 30x optical zoom which allows to get very sharp footage even from great distances. The image quality is full HD and comes with noise reduction and de-fog features. The light LED output outperforms any other inspection camera on the market.



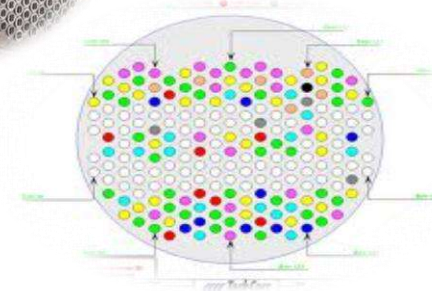
Tube Inspection (IRIS, MFL, ECT and RFT)

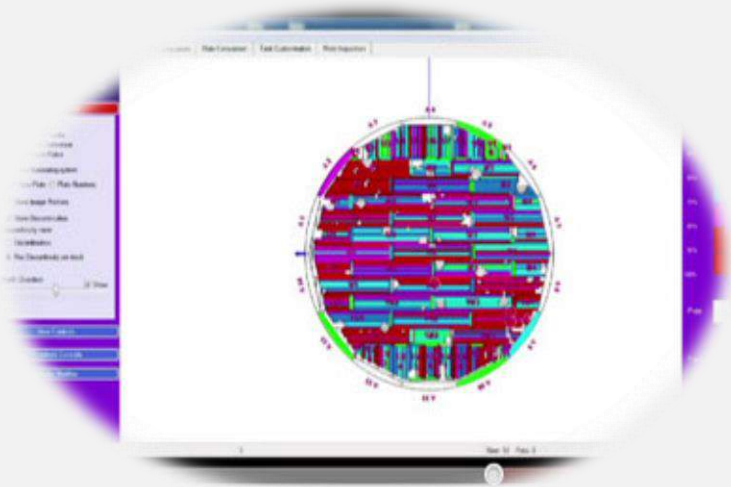
Regular tubing, all materials	Thin tubing (WT < 1 mm)
Can do with IRIS	Electromagnetic (ECT/RFT/NFT/MFL) only

Non-Ferritic Tubing	Ferritic Tubing
Eddy Current	RFT, MFL, NFT

Slightly ferromagnetic tubing, WT < 1.5 mm	Slightly ferromagnetic tubing, thick
Can do with Saturation ECT	Requires RFT, MFL or NFT

Finned <u>Non-Ferromagnetic</u> tubing	Finned <u>Ferromagnetic</u> tubing
ECT "A/C" probe design	MFL or NFT





Tank Bottom Plate Inspection

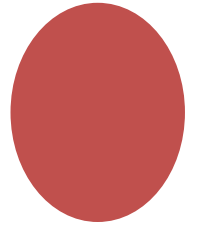
- **FloormapX**
- It is the latest multi-technology MFL Array tank bottom solution.
- It offers an unmatched probability of detection – including in the critical zone – and can address thick plates and coatings brilliantly.
- It provides top/bottom corrosion discrimination.

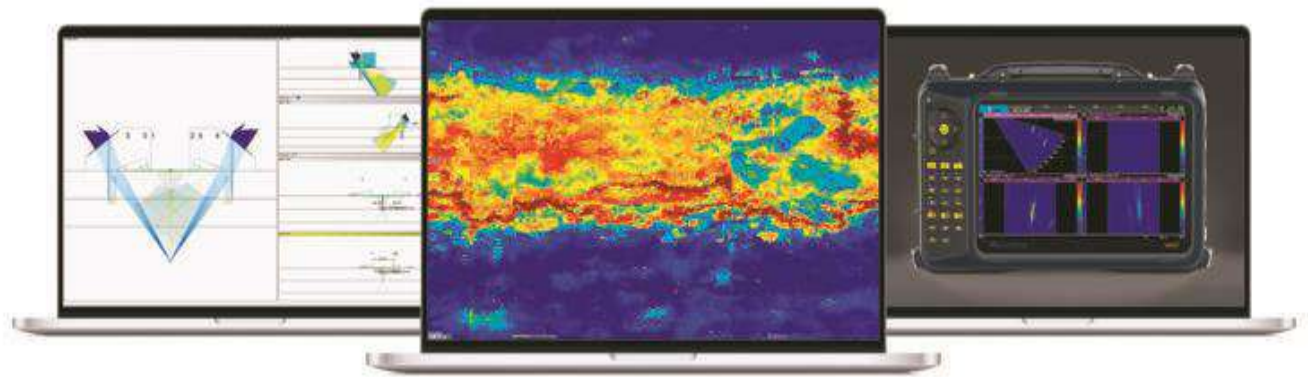
Guided Waves Inspection

- Guided waves are mechanical stress waves that propagate contained within the structural boundaries of pipes or plates with wavelengths that are comparable to the thickness dimensions of the pipe or plate.
- Guided waves are used in rapid testing or screening tools to detect, locate and classify corrosion defects. Large sections of piping can be quickly screened with 100 percent volumetric coverage to determine precise locations of corrosion damage.
- More detailed inspections can then be concentrated on the locations that are critical, thus saving money and time.

Application

- To inspect sleeved road crossings
- To detect riser soil to air interface losses
- To detect corrosion under insulation
- To detect pipe rack support losses in-situ
- To inspect buried or insulated lines
- Difficult to access locations





VEO3 Flaw Characterization and Assessment has never been this easy in difficult applications. High temperature Probes are available for In-Service Inspection

Phased Array Ultrasonic Testing

- Welds and weld overlays, piping, pressure vessels, clad material, storage tanks and structural steel
- Raised face flanges for damage on the ID bore and sealing face without having to disassemble them. This technique can be used during shutdowns, or on operating flanges
- Complex geometries with a single probe



OmniScan X3 Series

Innovative TFM and advanced PA capabilities help you identify flaws with confidence while powerful software tools and simple workflows improve your productivity.

Major Clients



أرامكو السعودية
saudi aramco

سابك
SABIC

ينساب
YENSAB

مرافق
MARAFIQ



ياسرف
Yasref



صدارة
Sadara



بترو رابغ
Petro Rabigh



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



الشركة السعودية للكهرباء
Saudi Electricity Company

▶▶ Client **Saudi Aramco**

Projects & History

Test Methods

Tube Inspection
ECT / FL / RFT / IRIS

Locations

Hawiyah Gas Plant
Shaybah Gas Refinery
Haradh Gas Plant
Khursaniyah Gas Plant
Yanbu Crude Tank Terminal
Riyadh Refinery
Shedgum Gas Plant

Types Of Tubes

Condensers
Heat Exchanger

Test Methods

Long Range Guided Wave Testing

Locations

Shedgum Gas Plant
Yanbu Gas Plant, Refinery & Terminal
Rastanura Terminal & Refinery
Qatif Gas Plant
Abu Ali Gas Plant
Dhahran Tank Farm /Bulk/ Airbase
Dhahran Crude Tank Farm
Juaymah Farm Tank

Types Of Tubes

Above Ground Piping
Above Ground With Scaffold Access
Buried Piping
Road Crossing

Projects & History

▶▶ Client **Sabic**

Test Methods

Long Range Guided Wave Testing

Locations

Arrazi (Sabic And Japan Saudi Arabia Methanol CO) / Jubail

Test Methods

Tube Inspection
ECT / MFL / RFT / IRIS

Provision of Certified API & Welding Inspectors

Locations

Safco Saudi Arabia Fertilizer Company Jubail

Petrokemya South during VCM 2022 Turnaround Jubail

Location & Contacts

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