G-Tech

Pursuing Business through innovation and advanced technology

COMPANY PROFILE

Registration no:
MT/AA/14/0052617/2014 (Ethiopia)
2016/533466/07 (South Africa)

ABOUT US

G-tech inspection is registered in the Republic of South Africa with 100% Ethiopian experts thrived on quality. At G-Tech inspection, we provide advanced and traditional non-destructive
testing (NDT) service and training, welding and coating inspections, level III consultancy, mechanical
maintenance, project and quality management for divers sectors in South Africa, Botswana, Zambia, and Ethiopia.

Note: The NDT Services we provides from Ethiopia branch are limited on PT,MT and UT for now, but the
Other methods can be arranged from South Africa office as requested.

BUSINESS STRATEGY

Purpose

To be ahead of the pack in the supply of NDT and welding field by providing enhanced service offering, relationship & profitability.

Vision

We aspire to be a global benchmark service provider that has an impact in Ethiopia and the rest of African countries.

Mission Statement

To transform customer requirements into tangible deliverables, build long-term relationships with clients by pursuing business through innovation and Advanced technology.

Core Values

We believe in treating our customers with respect and faith.
We grow through creativity and innovation.
We integrate honesty, integrity and business ethics into all aspects of our business functioning.

Goals

To impact positively to the African economy by creating work opportunities. To attract, train and retain young Africans to formidable practitioners thereby increasing the skills base of the country. To build a good reputation in the NDT field and become a key player in the industry.

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OUR SERVICES

As a pooled resource, with regional partners, we provide the following services:

Focal Point	Delivery Mechanism	Solution Provided
• **Quality Assurance and welding inspection**	Conducting various NDT methods and techniques by trained, experienced and certified practitioners employing quality controlled state-of-the-art appliances and instruments following defined written procedures.	**Quality control of new equipment parts or infrastructure.** **Welding inspection on pipe, boilers and so on**
• **Maintenance & Repair** • **All type of welding works**		**Condition assessment of equipment parts or infrastructure as part of normal maintenance or rehabilitation activities.**
• **Statutory Compliance**		**Safety compliance of equipment and infrastructure as governed by statutory requirements or industry regulations.**
• **Project management**	Manage various projects according to international standards and contracts	**Planing, Risk assessmet, quality management, HR mangement, Finanacial management and closing out of projects.**
• **Consultancy & Training**	Use of highly skilled and competent NDT L 3 practitioners and Welding engineers of the highest industry level.	• **Develop NDT procedures.** • **Interpret codes, standards, specifications and procedures.** • **Validate and/or authorise NDT acceptance criteria.** • **Train & authorise NDT Personnel.** • **Conduct regular internal audits to ensure compliance to NDT standards.** • **Welding procedures** • **Weld's qualifications**

Method	Equipment & Technique	Measurement or Type of Assessment Achieved
Visual Testing (VT) 	Inspecting plant machinery parts by direct or indirect observation and application of fitness-for-purpose engineering knowledge (API 570, API 653) with the aid of devices such as: • Mirrors, • Artificial lighting, • Magnifying glasses, • Fiber scopes • Cameras, • etc.	**Detection and evaluation of mechanical damage:** • **Gouging, Wear** • **Bending,** • **Distortion.** **Detection and evaluation of corrosion damage:** • Pitting, Fretting, • Inter/trans-granular, • Galvanic, • **Exfoliation,** • **Interfacial,** • **Galvanic** **Detection of cracking.** • **Crater cracking** • **Fatigue cracking,** • **Craze cracking,** **Detection of manufacturing imperfections and anomalies.** • **Crevices** • **Fissures,** • **Poor weld profile, undercutting, spatter**
Magnetic Particle 	Continuous AC & DC magnetization by magnetic flux induction or current flow including: • Wet color contrast, • Wet fluorescent, • Dry powder, Using; yokes, portable coils, portable prods and bench MPI machines.	**Detection of linear surface and subsurface discontinuities found in ferromagnetic materials:** • **All crack forms.** • **Forging laps.** • **Seam indications.** • **Laminations**
Liquid Penetrant Te  **.**	**Visible and fluorescent portable penetrant systems, including:** • **Water-washable and** • **Solvent-removable.** **Dispensed from aerosol cans**	**Subsurface breaking discontinuities such as:** • **All crack forms.** • **Forging laps.** • **Seam indications.** • **Laminations.** **Found in non-porous solids such as metallic and non-metallic materials.**

Method	Equipment & Technique	Assessment/measurement achieved	
Ultrasonic Testing (UT)   	Wall Thickness Testing using: • Digital Ultrasonic wall thickness gauges • Digital Ultrasonic flaw detectors	**Assessment of remaining wall thickness on:** • **Oil and gas high pressure piping,** • **Boiler tubes and drums,** • **Storage Tanks,**	
	Contact ultrasonic Weld Testing using: • Digital Ultrasonic flaw detectors with angle shear wave probes and normal compression probes.	**Examination of fusion welded joints for weld defects such as:** • Porosity, • Inter/trans-granular cracking, • Root cracking, • Hydrogen embrittlement cracking	**Slag inclusions** • **Metallic inclusions** • **Lack of side-wall and root fusion,** • **Wormholes** • **etc.**
	Time of Flight Diffraction • Portable state of the art digital ultrasonic flaw detectors with encoded probes mounted on scanning rigs.	**Suitable for fusion weld joint inspection and offering the following advantages:** • **Excellent PoD for mid-wall defects** • **Good detection of disoriented defects** • **Excellent sizing for defects** • **Rapid and relatively low cost applications.**	
	Ultrasonic Phased Array Testing • Portable state of the art Digital Ultrasonic flaw detectors with encoded probes mounted on scanning rigs.	**Suitable for wide configuration of parts and different materials. The following are the main advantages:** • **Higher reliability rate of detection.** • **Beam can be focused to target critical areas of welds or turbine blades.** • **Permanent record of weld scan** • **3D image of indications** • **Large volumes can be inspected with a single scan** • **Raster scan is obsolete** • **Quicker inspection time**	
Radiographic Testing (RT)	**Industrial Radiography** **Mobile industrial radiography darkroom for processing film exposed by x-ray and gamma-rays (using radionuclides).**	• **For the inspection of weld fabrications during construction to international code such as API, ASME, AWI, etc.**	

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PROJECTS AND HIGHLIGHTS

Listed below is a sample of notable project work undertaken by G-Tech inspection either directly or as a subcontractor for the principal service resource, i.e., through agency affiliation:

Egesim Energy Electo-Mechanics
Ultrasonic testing on 2km steam pipeline at Zeway, Ethiopia.

Randwater projects
Radiographic, magnetic particle and dye penetrant testing on various size of pipes from 2016- up to date

Ultraspec NDT
UT, PT and MT test on Electric train stators. Level III consultancy and training in PT, MT, RT and UT from 2018 up to date

Maninga Engineering PTY Ltd
Project management on installation of fire pipe line, From 2017 up to date.

Eskom Rotake:
Panfontein , 6km sludge disposal pipe line butt weld joint tested by Radiographic & Penetrant test method.

South Africa compensator PTY Ltd
Radiographic and Penetrant test on Belows and pipes form 2019 up to date

CURID'S ARROW - Botswana
Level III consultancy and training in PT, MT, RT, WT and UT from 2018 up to date

IEC Holden
Providing UT, MT and PT services on stators from 2019 to 2021.

Personnel Qualifications and Professional Affiliations

PERSONNEIS

Personnel Qualifications and Professional Affiliations

G-Tech inspection maintains a high standard of up-to-date personnel qualifications
in the following categories:

SAQCC Level 3 Practitioners – in UT, PT, MT, RT
PCN,SAQCC and SNT Level 2 Practitioners – in VT,MT, PT, UT, RT, EC
Masters in Project Management
BSc in Mechanical Engineering

QUALITY MANAGEMENT SYSTEM

The quality management system in use at G-Tech inspection is based on ISO9001:15 and it is on process to be certified. G-tech Written Practice is based on ISO 9712 and ASNT's "Recommended Practice No. SNT-TC-1A: - 'Personnel Qualification and Certification in Non-destructive Testing' , which provides guidelines for employers certification programs for the qualification and certification of non-destructive testing personnel. G-Tech inspection's appointed level III audit the above quality system and ensure that the latest industry standards are maintained including use of internationally accepted inspection procedures and techniques along with calibrated and up-to-date appliances and instruments.

CONTACT DETAILS

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