



Inspection and Engineering Services



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Catalog of Primary Service Offerings

HSI Group offers world-class Metallurgical Engineering and Inspection Services for oil, gas, chemical, food & beverage, power generation and defense industries. The company utilizes a staff of experienced engineers and inspection professionals, extensively trained in operating the latest in scanning systems for corrosion surveys, weld examination and damage assessments. Service offerings provide a complete program of inspection services which will allow plant operators to manage the long-term asset life of plant equipment and pipelines.

Non-Destructive Examination – Advanced

- **Guided Wave Testing (GWT)** – ultrasonic screening technique in which mechanical stress waves are propagated along the length of a pipe to accurately determine severity and location of corrosion. Excellent in situations where access to piping is restricted. It is possible to assess tens of meters of piping per data collection. Excellent for detecting CUI, soil corrosion, touch-point corrosion without lifting pipe off supports.
- **Electromagnetic Through-Transmission (E-CAT™)** – technique where changes in an induced magnetic field are measured and used to detect CUI or CUF through insulation or fireproofing. Capable of determining estimated cross sectional wall loss as well as extent of an indication.
- **Time of Flight Diffraction (TOFD)** – ultrasonic technique that provides extremely reliable flaw detection and the most accurate sizing of flaws in steel components.
- **Shear-wave Testing (UTSW)** – manual ultrasonic scanning technique ideal for the detection of weld defects.
- **Phased Array (PAUT)** – a number of very small elements arranged in a line or in a specific cluster design. By activating a number of the elements at once, a predetermined beam of a specific size, focus and angle, or even varying angles, can be produced, allowing for the detailed mapping of flaws and their morphology.
- **Colour Graphic Corrosion Mapping** – there are a number of colour graphic corrosion mapping systems, which work along different lines but all result in a colour image and analysis software for extracting minimum thickness and area measurements. The use of three types of corrosion mapping equipment used are; camera & light emitting diode (LED), fully automated X-Y scanner and phased array strip scanner.

Non-Destructive Examination – Conventional

- Magnetic Particle Testing, Dye Penetrant Inspection (either red dye or fluorescent, on non porous materials), Ultrasonic Thickness Testing (UT), Tank Floor Inspection (monitoring corrosion of bulk liquid storage tanks)

Inspection Services

- API Visual Inspection, Mechanical Inspection on Equipment, Structural Steelwork Quality Control on-site, Manufacturing Quality Control at Fabrication Facilities, Welding Inspection (CWI) Procedure Tests and Paint/Coatings Supervision of Applications, Video Inspection

Special Assessment Services For Steam Methane Reformers

- Reformer Tube Inspection and Condition Assessment (External and Internal) (HSCAN®)
- Remaining Life Assessment (WinTUBE™)
- Header Inspection and Assessments (HSCAN H-CAT™) assist in the life prediction of these components, proper inspection and condition assessment which are required on a regular basis.
- Pigtail Inspection and Life Evaluation (HSCAN P-CAT™) a series of proprietary NDT sensors, which when placed at a specific location of a pigtail, can screen along the complete length of the tube for areas of creep damage.
- Internal Bi-Metallic Weld Evaluation and Life Prediction (EMT)

Technical Service Personnel

- Mechanical Engineers, Quality Engineers, Certification Engineers, Welding Engineers, Material Control Personnel, Welding Inspectors and Coating Inspectors

Contact us for assistance with your next project today!