



LEADING PROVIDER OF CONDITION MONITORING SERVICES

Specialising in Electrical and Mechanical Testing

ndt 
SERVICES
GROUP

ndtservicesgroup.com.au



INDUSTRY LEADERS IN CONDITION MONITORING SERVICES

QUALITY SERVICE AND LONG STANDING RELATIONSHIPS WITH OUR CUSTOMERS

NDT Services Group is a leading provider of condition monitoring services, specialising in electrical and mechanical testing and having forged an enviable reputation built on quality service and long standing relationships with our customers.

NDT Services Group is a wholly owned subsidiary of Kenshaw, providing independent, non-destructive testing and condition monitoring services.

We understand that businesses need to maximise profits through minimising downtime. At NDT we will assist you to maximise the reliability of your plant and equipment through a range of online / offline condition monitoring services. From our head office in Newcastle we provide regular and responsive service to long standing clients within the agriculture, mining, industrial, hospitals, aged care facilities, transport, defence and utility sectors across the eastern seaboard.

NDT Services Group's success has been built on our highly skilled, experienced and dedicated staff providing quality critical asset management services based on our simple philosophy: to provide professional service excellence with integrity and helpfulness.

We listen to your needs so we can proactively provide critical electro-mechanical solutions and services that exceed your expectations and ensure you are never let down.

OUR SERVICES

We are a leading provider of condition monitoring services, offering a comprehensive range of solutions to industry. We pride ourselves on customer service for reliable plant and equipment which maximises profits and minimises downtime for clients.

Our technicians are highly skilled and experienced across a wide range of industries from mining, utilities, infrastructure, processing, military and transport.

The condition monitoring technologies and services that we offer include:

- » Motor Testing
- » Oil Analysis
- » Vibration Analysis
- » Thermal Imaging
- » Laser Alignment
- » Dynamic Balancing
- » Ultrasonic Testing
- » Crack Testing
- » Power Factor Correction (PFC)
- » Power Quality Monitoring



Quality
ISO 9001
SAI GLOBAL



MOTOR TESTING

We offer a full range of diagnostic tests for your business critical low voltage, high voltage and DC motors.

Electrical condition monitoring is now widely accepted as a beneficial technology to complement existing condition monitoring techniques such as vibration analysis, infra-red thermography scans and oil analysis.

The use of a combination of proven and reliable condition monitoring techniques enables the motor or generator owner to confidently move from a time based maintenance regime to a condition based maintenance program, allowing for the efficient use of site resources and offers significant financial benefits.

The following tests are utilised to determine the condition of electrical rotating assets and to identify potential failure mechanisms:

- » Symmetry – Resistance / Inductance
- » Insulation Resistance
- » DC Hipot – Step Voltage
- » Polarisation Index
- » On-line and Off-line Partial Discharge
- » Dielectric Dissipation Factor
- » AC and DC Voltage Drop
- » Current Spectrum Analysis
- » Instantaneous Power Analysis
- » Current In-rush
- » Capacitance

OIL ANALYSIS

Oil that has been inside any moving mechanical apparatus for a period of time reflects the exact condition of that assembly. Oil analysis involves sampling and analysing oil for various properties and materials to monitor wear and contamination in an engine, transmission or hydraulic system.

Sampling and analysing on a regular basis establishes a baseline of normal wear and can help indicate when abnormal wear or contamination is occurring. Oil is in contact with engine or mechanical components as wear metallic trace particles enter the oil. These particles are so small they remain in suspension.

Many products of the combustion process also become trapped in the circulating oil.

By identifying and measuring these impurities, you get an indication of the rate of wear and of any excessive contamination. An oil analysis also will suggest methods to reduce accelerated wear and contamination.

Oil analysis can detect:

- » Fuel dilution of lubrication oil
- » Dirt contamination in the oil
- » Antifreeze in the oil
- » Excessive bearing wear
- » Misapplication of lubricants.



VIBRATION ANALYSIS

We provide vibration analysis of your rotating assets utilizing modern equipment and highly trained skilled technicians to identify and recommend corrective actions to keep your plant operating at peak performance.

With the implementation of a routine vibration analysis program the following benefits are possible:

- » Identification of issues prior to expensive plant downtime and loss of production
- » Positive prioritisation of required maintenance to maximise maintenance efforts and resources
- » Reduction of damage to secondary and ancillary equipment
- » Improved plant reliability and production

Plant requiring corrective actions have a detailed fault analysis and description with required recommendations.

Positive identification of the following problems can be achieved with vibration analysis:

- » Rotating component imbalance
- » Mechanical looseness
- » Bearing defects
- » Gear mesh problems / defects
- » Misalignment of components
- » Lubrication issues
- » Pump cavitation
- » Electric motor problems



THERMAL IMAGING

Our thermography services are carried out by qualified electricians with a minimum of Level 1 certification.

Recent years have seen an increase in the acceptance and use of infrared thermography for preventative and predictive maintenance. Today's industrial environment has resulted in NDT constantly finding new and diverse applications for thermal imaging.

Full colour reports detailing IR and visual images, fault severity, fault description and recommendations are issued for every

survey. Infrared scans identifies problems not seen by the human eye and are the fastest way to identify heat generating faults.

Identification of problems in:

- » Electrical assets such as switchboards, cables and motors
- » Rotating component failures in gearbox assemblies and conveyors
- » Furnace and heat plant inefficiencies due to failing refractory / insulation
- » Production problems such as blockages and incorrect levels

LASER ALIGNMENT

Our laser alignment services that are fast, extremely accurate and calibrated to applicable standards which enable both accurate and repeatable measurements. Our technicians provide a comprehensive shaft alignment measurement service for your rotating assets.

Detailed reports are provided that clearly show, both graphically and numerically, the original and final alignment condition of the drive train components.

When misaligned, the loading of the drive components dramatically increases due to the rotational reaction forces.

Increased loading can lead to:

- » Premature bearing and seal failures
- » Advanced coupling and shaft wear
- » High bearing temperatures
- » Lubrication problems
- » Excessive vibration
- » Damage to component mountings
- » Increased power consumption



DYNAMIC BALANCING

NDT offers on-site balancing services.

Benefits of on-site dynamic balancing are:

- » Reduction in downtime, no disassembly and removal of components off site
- » Can be carried out during short planned outages effectively
- » Extends the service life of bearings, seals and machine components
- » Product quality maintained with increased productivity

Typical equipment / components that are balanced on site include:

- » Pulleys and Rollers
- » Couplings
- » Blowers and Fans
- » Large Rotors

Typical industries utilising our on-site balancing services are:

- » Cement Plants and Steel Mills
- » Pulp and Paper Mills
- » Power and Water Utilities
- » Materials Handling Operations
- » Manufacturing sector

ULTRASONIC TESTING

NDT offers electrical ultrasonic and TEV (transient earth voltage) measurement for identification of potentially dangerous and costly conditions in high voltage systems.

Ultrasonics coupled with TEV measurements allows for non intrusive assessment of high voltage installations in a safe and accurate manner prior to an in service failure.

All high voltage assets will have some level of partial discharge occurring either internally or on the surface of the insulation. TEV readings taken, can be

quantified to determine the severity of any internal discharge problems and any required investigations or maintenance strategies.

Ultrasonic inspection of the assets allows for easy identification of surface tracking that may lead to erosion of insulation and the deposit of potentially conductive surface contamination.

Typical applications include:

- » Transmission and distribution lines
- » Substation inspections / audits
- » Switchgear
- » Transformers



NATA CERTIFIED



CRACK TESTING

NDT Services Group is a NATA certified company that offers crack testing services, carried out by qualified technicians with AINDT Level 2 certification.

Magnetic Particle & Dye Penetrant

At NDT Services Group we recognise that the reliability of Crack Testing depends on repeatability and acceptance levels. When safeguarding structural integrity, our technicians and engineers work together to select the correct NDT method and Australian standard to enable reliable results to be produced.

A full colour report detailing visual images, fault severity, fault description and recommendations are issued for every survey.

These reports are utilised by maintenance personnel to action identified problems. If required, sample reports for this service offering are available upon request.

Types of Crack Testing include:

- » Magnetic Particle Testing to AS1172
- » Dye Penetrant Testing using fluorescent penetrant to AS 2062
- » Dye Penetrant Testing using visible penetrant to AS 2062
- » NDT Services Group is a NATA certified Crack Testing provider

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ABOUT KENSHAW

Kenshaw provides a wide range of 'business critical' power generation solutions, products and services, across the entire lifecycle including electric motors, generators, mechanical equipment and non destructive testing services. From the initial sourcing and customisation of the right choice of motors and generators, to their installation and regular servicing, to testing the equipment to ensure that it is performing optimally and that any issues are identified ahead of time, to 24/7 repair work on site or in our fully equipped workshops.

We are an Australian dealer of Cummins generators and Leroy Somer alternators plus many other brands both new and used. Our capability in this area includes generator systems design, turn-key sales, installation and all aspects of servicing including scheduled maintenance or emergency breakdown. We are also one of the largest stockists of electrical motors in NSW outside of Sydney, able to source all brands of electric motors and proud agent of WEG, an authorised distributor of TECO and FASCO electric motors and Bonfiglioli gear boxes.

In a tight spot, we want you to know NDT Services Group is there to help! For more information:
Call us on 1300 133 390 or 02 4903 1500 or email info@ndtservicesgroup.com.au

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