

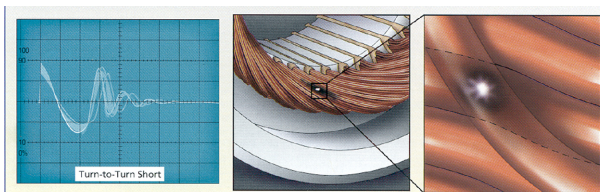
SERVICE

All of our work is carried out by fully trained and qualified engineers. We have grown steadily into a company that has gained an excellent reputation for a high standard of work and service. A large proportion of our work comes from recommendations from satisfied customers. We offer FREE ESTIMATES, with all of our work guaranteed, and conforming to the latest edition of the IEE Wiring Regulations & Indonesian PUIL 2000.

DOMESTIC SERVICES

ABS Indonesia offers a wide range of domestic electrical services including:

- Additional lighting and power points
- Full and part rewires
- New electrical installations for new build properties
- Electric heating design and installation
- Consumer unit and earthing upgrades
- Security lighting
- Fault finding and repairs
- Electrical test and inspection reports for landlords, and homebuyers
- Structured cabling
- Television, Sky points
- Telephone points



COMMERCIAL SERVICES

PT. ABS Indonesia Electrical services offer a wide range of commercial electrical services including:

- Additional internal and external lighting including complete design service
- Additional power points and supplies, single and three phase
- Design and build electrical installations for new or existing commercial and industrial properties
- Distribution board, and panel board upgrades
- Maintenance contracts
- Fault finding and repairs
- Lamp replacement including lamp replacement contracts
- Electrical test and inspection reports
- Portable appliance testing (PAT Testing)
- Structured cabling
- Fire alarms to BS5839-1:2002
- Emergency lighting to BS5266-1:1999

Thermal Imaging

Over 1/3rd of production is lost due to downtime. With a predictive/preventative maintenance program with thermal imaging involved this number can be greatly reduced. Pictured below are just some of the applications thermal imaging can be used for.



PT. AUSTRALIAN BELT SCRAPER INDONESIA
Jalan Cihampelas 48B, Bandung 40116, West
Java, Indonesia
Phone +62 (22) 4264000
Fax +62 (22) 4232694

www.absindo.com

Sample Reports

Here we can see a sample page from a typical report showing the object with the thermal image of the subject, graphical representation of the results and any recommendations for future action.

Thermal Imaging Inspection is a "Proactive Service" where faulty plant and equipment can be rectified under routine maintenance schedules without interruption to production processes. The Alternative is a "Reactive Service" where plant and equipment may fail without notice therefore being responsible for unnecessary production downtime.

Our Thermal Imaging Camera can be used for Electrical, Mechanical or any other process where temperature deviations can affect a process or outcome.

Electrical Measurements & Testing utilize a thermal imaging camera and associated software to provide Thermal Imaging Inspection services to Various Industry.

Identification



Section	Boiler Room
Equipment	EMCC-0-1
Additional information	Sliding contact
Date	5/15/2003
Time	7:35:23 AM

Working condition: Box looks good

Fault description



Fault	Poor sw. contact
Object parameter	Value
Emissivity	1.00
Object distance	2.0 ft
Ambient temperature	73.5°F
Label	Value
SP01	124.4°F

Recommendation

Clean and refit

Level 2

The heating is greatest at the slide switch although the fuse contacts should be cleaned and checked for contact force.

**If a Picture Can Say a Thousand Words
then...**

**Thermo Graphic Imaging Pictures May
save Thousands of Dollars.**

Some of the significant features of this instrument are :

Temperature Range :	20 deg C to 900 deg C (1100 deg C at reduced accuracy)
Measurement Accuracy :	+/-2% or 2 deg C (typical)
Temperature Sensitivity :	0.15 deg C
Field of View :	26 deg (H) x 19 deg (V)
Camera Display :	125mm colour LCD Monitor
Minimum Focus Length :	30 cm
Imaging Recording :	48Mb PCMCIA card (240 x 12 bit images)

On Site Inspection

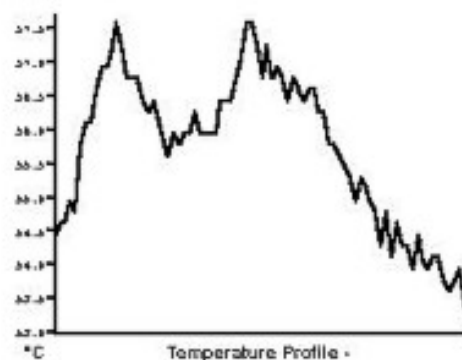
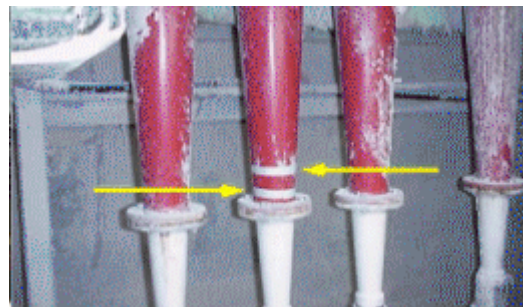
ABS Indonesia staff complete on site Thermo graphic Image Inspections to meet the clients needs.

On site cooperation with plant maintenance staff is recommended to ensure all inspection points are addressed as well as gaining first hand knowledge of critical areas.

This sample image shows where a blockage in equipment at a paper mill has caused dangerous thinning of PVC tubes. This was not detectable by any other means and almost certainly saved costly failure and associated downtime.

The graph shows the temperature profile across the line between the arrows with sharp variations of only 1 degree C.

Monthly thermal inspection of this equipment is estimated to be now saving this client \$100,000 annually in downtime reduction.



Reports

Our thermal image inspection service includes a full color report which includes visible and infra-red images of the problem component. The report also provides details of actual v differential temperatures, electrical loads, component identification and repair recommendations.

Repair Priorities are identified as follows:

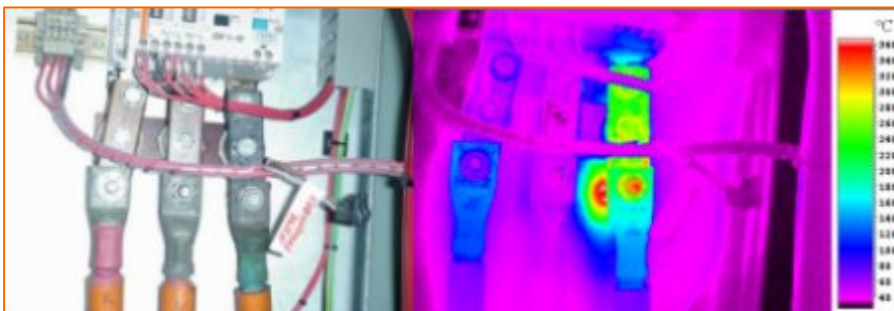
- Immediate Action Required
- Urgent Action Required
- Next Shut Down Period
- Continue Monitoring

Accompanying the report is a list of all sites/areas inspected.

Our standard report can be customized to suit the client's requirements and provided on CD if desired

ABS Indonesia operators have completed course of "Theory and Practice of Infrared Thermograph for Condition Monitoring" and are accredited members.

THERMAL IMAGE 1 - CABLE TERMINATION

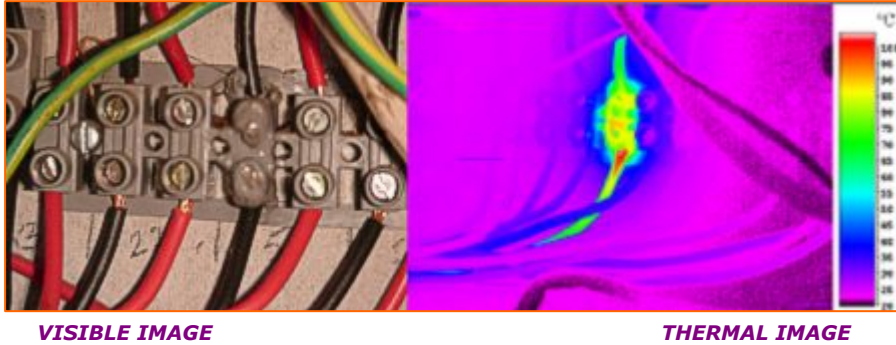


VISIBLE IMAGE

THERMAL IMAGE

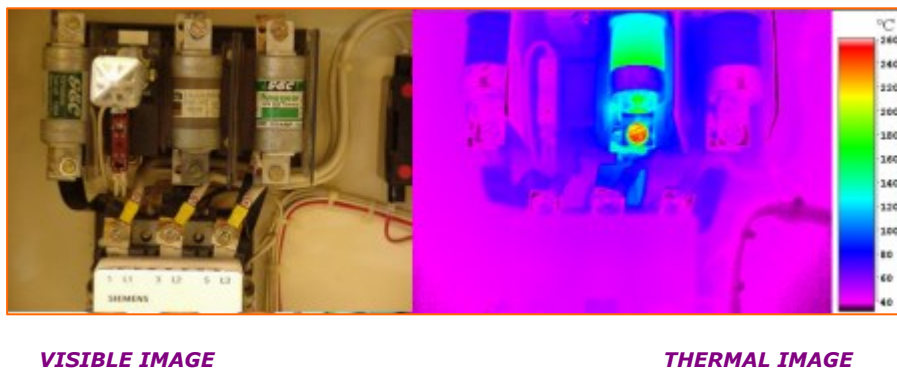
These pictures show a cable termination in a water supply pump station. The connection bolt on the cable on the right was approximately 350 deg C. This would have failed soon with a possible loss of the pump station and water supply to thousands of customers.

THERMAL IMAGE 2 - TERMINAL STRIP



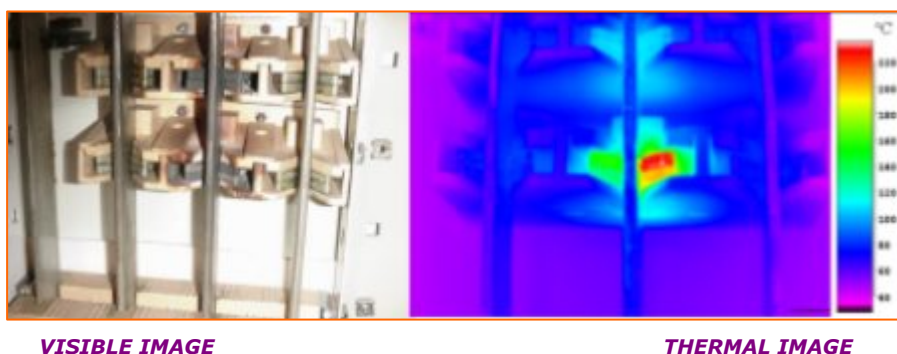
This terminal strip connection was approximately 100 deg C and was out of view behind a false panel. The potential for a disastrous fire was great.

THERMAL IMAGE 3 - FUSE CONNECTION



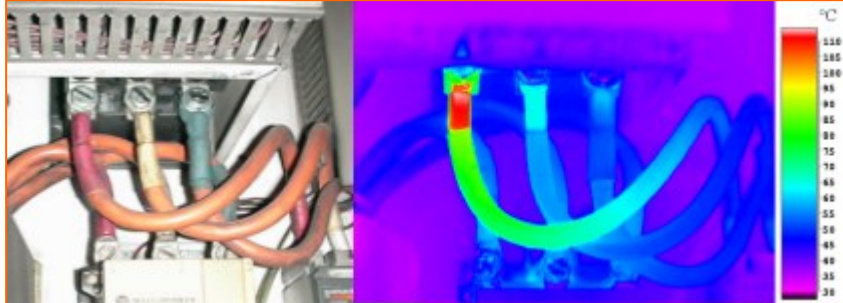
This fuse screw connection was 260 deg C and would have caused the failure of a vacuum pump in a newsprint plant costing approximately \$10,000 for 1 hr of downtime.

THERMAL IMAGE 4 - LARGE CIRCUIT BREAKER CONNECTION



This busbar connection for an 800 A circuit breaker would have shut down a machine costing many thousands of dollars per hour.

THERMAL IMAGE 5 - CRIMP LUG

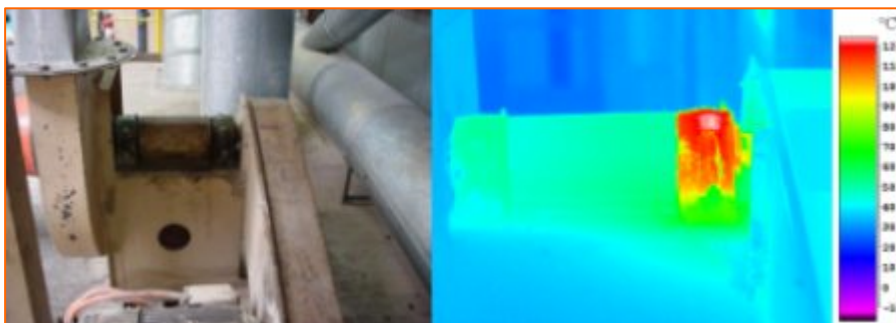


VISIBLE IMAGE

THERMAL IMAGE

This crimp lug connection was 55 deg C hotter than the outer phases and would have resulted in the loss of ventilation air to a mine 1000 ft underground

THERMAL IMAGE 6 - MOTOR BEARING



VISIBLE IMAGE

THERMAL IMAGE

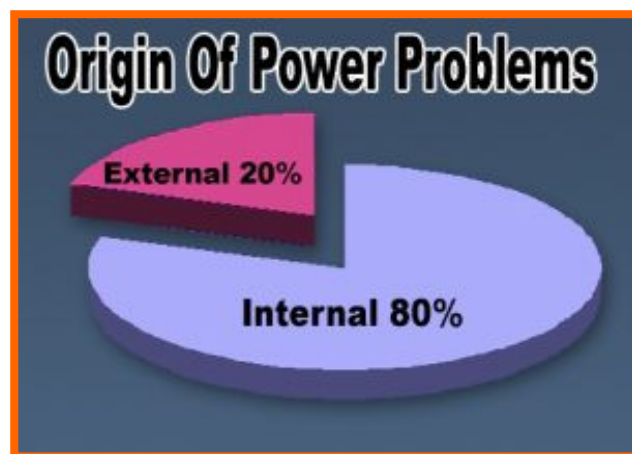
This 130 deg C motor bearing has been changed to prevent loss of cooling air in a chemical factory.

An IR report lists the type of fault, location, severity, and recommended remediate.

Report page format is easily customizable per the customer's needs

Power Quality Analysis

Power quality is a very important factor in a productive shop and office. The use of this tool with trained experts can help locate potential problems with your electrical system. Problems that may have been caused by your own equipment or your power supplier. Keep your company up and running with power quality analysis of your electrical distribution system, and control wiring systems.



Capture and record events at the main panel feeds or an individual circuit.



Analyze individual circuits and capture events on equipment or components

ABS Indonesia Electrical Services are able to analyze an individual machine/circuit, a specific panel or the main electrical system to narrow down a problem efficiently. Upon completion of your analysis we will provide you with a complete and easy to understand reporting of your electrical issues. A wide array of problems can be detected; electrical noise, power factor, dips and swells, energy usage, transients and more. Along with that, as a licensed electrical contractor, we can make the needed changes to keep your shop equipment or office running.

Call ABS Indonesia Electrical Services to see what a power quality analysis and energy usage audit can do for your company.

Commercial & Industrial Wiring

ABS Indonesia Electrical Services can complete all of your office/shop wiring and installations. ABS Indonesia and its international group of companies is a licensed electrical contractor in the West Java Province, Indonesia. Give us a call on your next electrical installation for your commercial building.

Electrical Distribution



***240/415 Volt Panels along
with 110/220 Volt Panels***



***415 Volt - 240 Volt
Transformer, wall mounted***

Controls and equipment wiring



Timers and controls wiring



Compressor room wiring

Service and Repair



Service panel disconnect with "B" phase wire burnt off.



Panel disconnects, repaired and back in service!

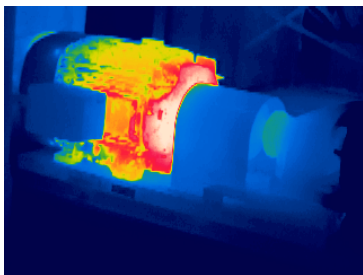
ABS Indonesia Electrical Services specializes in service, maintenance and changes of your electrical power distribution within your commercial buildings

Services

ABS Indonesia Electrical Services offer the very best in:

- Thermal Imaging; with Certified Thermographer
- Controls wiring and installation
- Power Quality Analysis
- Electric Motor Installation and Insulation Testing
- Shop and Office Wiring
- Commercial and Industrial Wiring
- Service and Troubleshooting of all power and control Electrical components.

SERVICES PROVIDED BY ABS Indonesia Electrical Services:



THERMAL IMAGING.

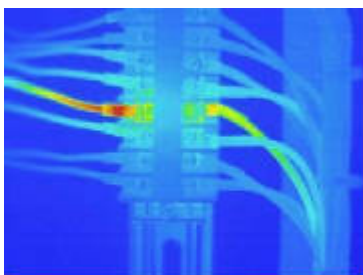


POWER QUALITY ANALYSIS.



COMMERCIAL /IND INDUSTRIAL
ELECTRICAL WIRING.

SERVICES PROVIDED BY ABS Indonesia Electrical Services:



THERMAL IMAGING GALLERY



POWER QUALITY ANALYSIS



COMMERCIAL AND
INDUSTRIAL WIRING.



ABS Indonesia Electrical Services

Phone : +62 22 4264000

Fax : +62 22 4232694

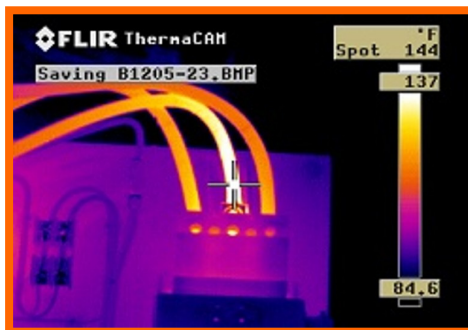
Email : marketing@absindo.com

Predictive Maintenance and Testing Services for Industry and Municipalities

Predictive Maintenance



Is the plant equipment capable of meeting the production plan? ABS Indonesia Electrical Services can help answer this question through a testing service that quantifies equipment condition during its normal operation. Using state-of-the-art testing methods, testing can be employed on either a pass/fail basis or recorded and tracked over time showing trends in useful life. With a payback of from 7:1 up to 35:1, Predictive maintenance is an excellent investment in plant productivity



Infrared Thermal Imaging



Vibration Analysis

Benefits:

- Reduce unscheduled down time and associated costs
- Facilitate scheduling of equipment repairs
- Improve product quality by reducing process variation
- Improve plant safety and reduce fire hazards
- Lower potential damage to equipment and facilities
- Realize a probable reduction in insurance premiums

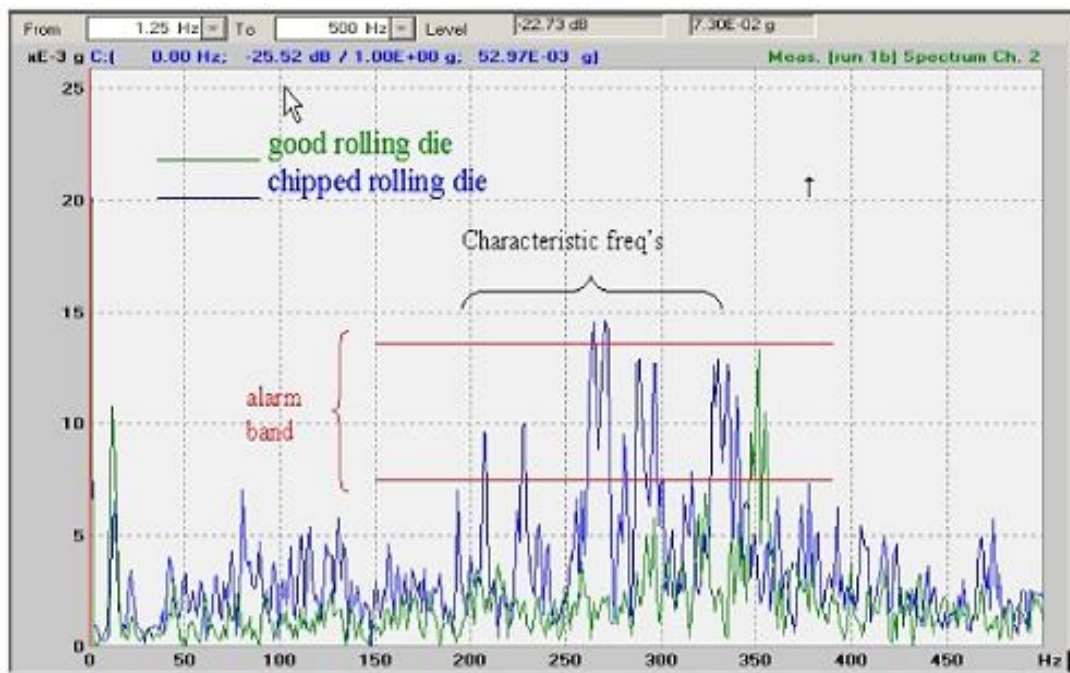
'Be Proactive Manage Assets'

Process Monitoring

Continuous Process Monitoring Using Vibration Analysis

Continuous vibration analysis of production equipment prevents catastrophic failure and/or production of scrap. A low cost analyzer is programmed with predetermined fault frequencies for monitoring very specific operating characteristics irrespective of other machine operations and background noise. Alarm bands for each specific fault frequency are assigned to window acceptable operational vibration levels. Implementation on new or existing applications is easily accomplished by installing the small analyzer in the machine controller cabinet or on the machine frame. A digital interface provides output for alarms, SPC, or machine control functions. The broad list of applications includes: protection of high cost machine tool spindles, large rotating machinery, gears, bearings, hydraulic pumps and compressors, etc. Ideal for detecting worn or chipped cutters and cracked forming dies, etc

Dedicated analyzer setup with selected spectral content and alarm bands



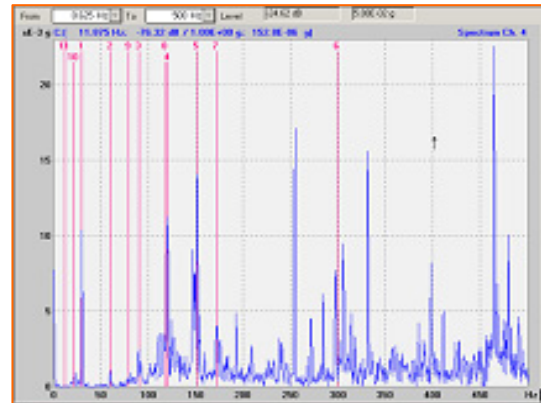
Test Technologies

Vibration Analysis:

Vibration analysis accurately quantifies equipment performance and its condition.

Applications include:

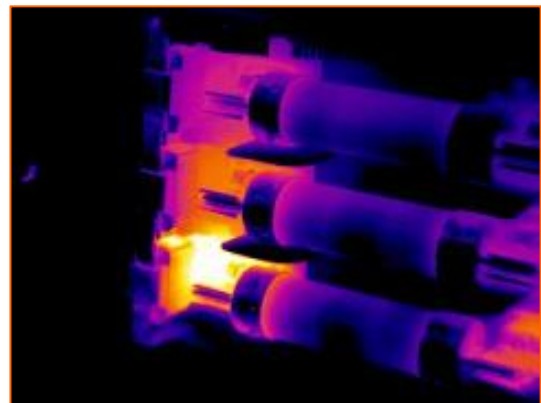
- Bearing condition monitoring
- Drive train analysis (gearing, balance etc)
- Forced response testing and modal analysis
- Structural dynamics and integrity
- Seismic studies
- Acoustic emissions



bearing defect frequencies

Infrared Thermal Imaging:

The ability to view equipment and processes in operation and detect temperature differences as small as one tenth of a degree opens up a new world of information. IR scans are used to detect electrical defects, mechanical failures, building envelope problems, tank level, location of underground piping, steam leaks, and mapping process heat such as injection temperature, etc.



corroded fuse slide switch contact

Ultrasonic testing:

Acoustic emissions and machine vibration in the ultrasonic range of frequencies provide information not sensed by ordinary techniques. The extreme sensitivity makes it ideal for testing compressed air and steam leaks in plant piping, locating leaks in vessels, characterization of fluid flow properties such as cavitations, and location of switchgear faults such as arcing and contact chatter. A specialized ultrasonic bearing analyzer provides very early warning of bearing condition.



listening to bearings

Engineering Solutions

Resolution of complex problems based on root cause analysis with confirmation by follow-up testing. Product and process development studies using advanced tools provide detailed insight into the development process:

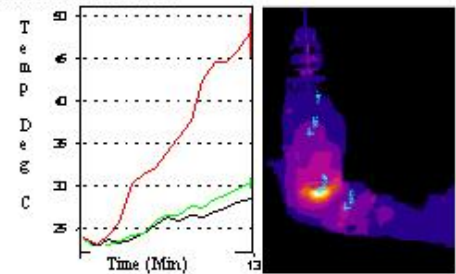
- Detection of design flaws
- In depth quality assurance testing
- Field failure analysis
- Process capability studies

Thermal analysis tools include trending, line profiles, and multiple spot temperature measurement with a resolution of 0.1°C.

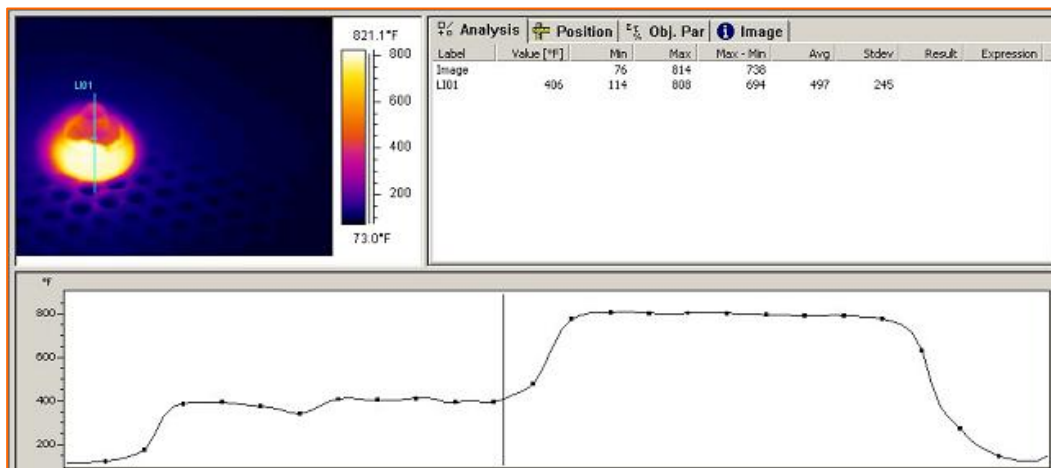
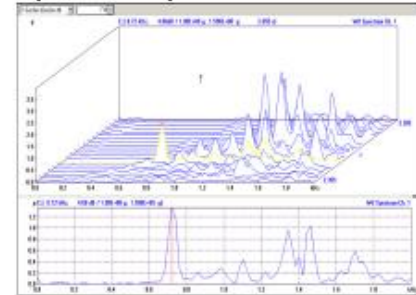
Vibration analysis tools include impulse testing of structures and modal analysis, seismic studies, and characterization of rotating machinery.

Strain gauge measurement capability reveals load and structural behavior.

Thermal transient



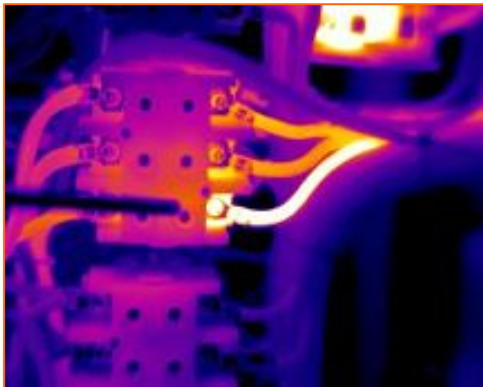
Dynamic analysis



Plot of the thermal gradient along a line of a brazement at the start of cooldown

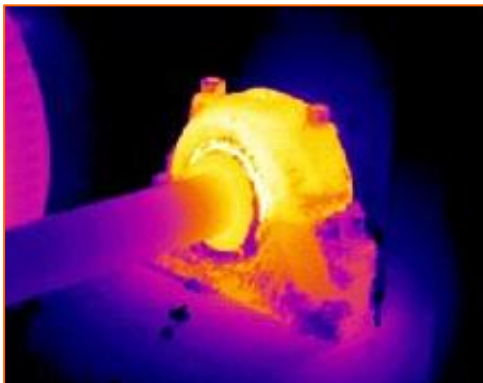
IR Thermal Imaging

Infrared thermal imaging provides a thermal map of the surface of an object during normal operation. It is up to the analyst to assign meaning to the measured temperatures. ABS Indonesia Engineering Services test engineers have the training, experience and equipment to provide complete facility testing in accordance with NFPA 70B, 70E, and ASTM E1934.



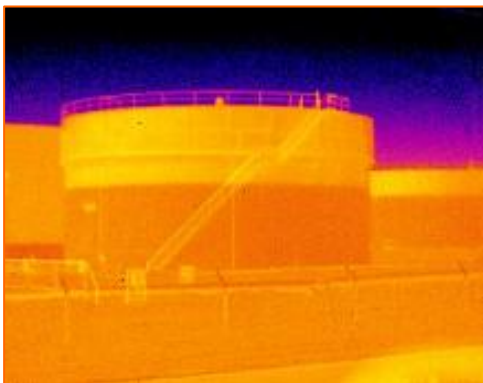
Electrical:

Faults in a power distribution systems readily reveal themselves due to increases in resistance or current in accordance with the equation $\text{power} = \text{current squared} \times \text{resistance}$. These increases may be the result of a loose cable connection, failing circuit breaker, degradation of insulation, corrosion, and electrical structure failure. Additionally, one may detect harmonic currents, load imbalance, inductive heating, and transformer oil levels.



Mechanical:

Heating in mechanical systems is due to frictional heating and heat flux through a material such as wet insulation. Applications include bearing condition, steam leaks, tank level, building envelopes, wet insulation, and etc. The camera has a temperature range of 32 - 900 deg F and can resolve 0.1 deg which provides a unique view of the physical world. Higher temperatures can optionally be measured.



Process and R&D:

Infrared imaging opens up a new toolbox for monitoring processes and performing engineering evaluations. The tank image serves to stimulate your imagination. A hydraulic line passing through the floor will leave a thermal trace. If the process involves moisture content, there will a thermal gradient caused by evaporation. The efficiency of a heat exchanger will be revealed from inlet to outlet. An image of a brazement will reveal the thermal gradient caused by different coefficients of thermal conductivity. Special lenses and imaging techniques enhance the measurement.

Vibration Analysis

Vibration analysis is the fundamental tool for quantifying the condition of equipment. The information provided takes the guesswork out of diagnosing failures by providing data for root cause analysis. There are two general types of testing, route based predictive maintenance monitoring and dynamic analysis. ABS Indonesia Engineering Services has the equipment, software and expertise to do both route based and system dynamic analysis.

Route based condition monitoring:

Focuses on bearing failure, gears, drive train components, electrical failures in motors, balance, and mounting. It provides a means of testing a large number of machines in the plant and effectively diagnosing and trending the condition of the each. ABS Indonesia uses Engineering's advanced software analysis tool which applies 4700 diagnostic rules to each measurement insuring that even the most subtle faults are not overlooked.



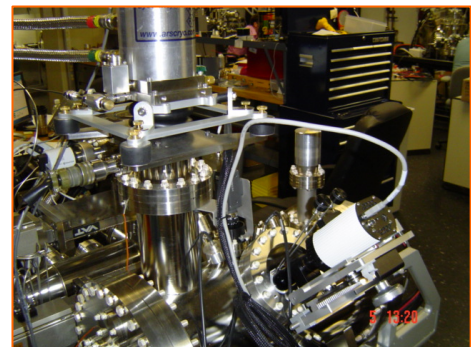
Vibration and acoustic analysis:

Measurement of machine vibration frequently provides a clear indication of its behavior and condition. Sensors such as accelerometers, microphones, or strain gauges provide the input to a spectrum analyzer which provides a view of its behavior. In the case of acoustic emissions from machines, one seeks to identify the forcing function, conduction path, or radiating surface in order to reduce emissions.



Structural and seismic vibration:

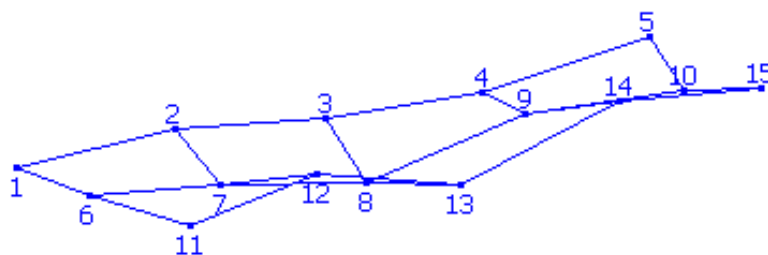
A major concern to process performance. Not only is the life of the structure at issue but equally important is the associated process capability. Applications include precision process equipment such as that found in a silicon foundry, measurement systems, and laboratories.



Modal & ODS

Experimental operating deflection shape (ODS) analysis provides graphical visualization of natural frequency(s) and resonances of a structure. Whether designing a machine tool, motors or spindles, or rotating elements such as blowers, it is of great benefit to understand the dynamic behavior of the structure in completing a robust and safe design. ODS is an excellent means of verifying mathematical models prior to taking a design into production or it can be used as a means of explaining field failures. The process consists of recording forced response tests at a number of points with a spectrum analyzer and processing that data using software.

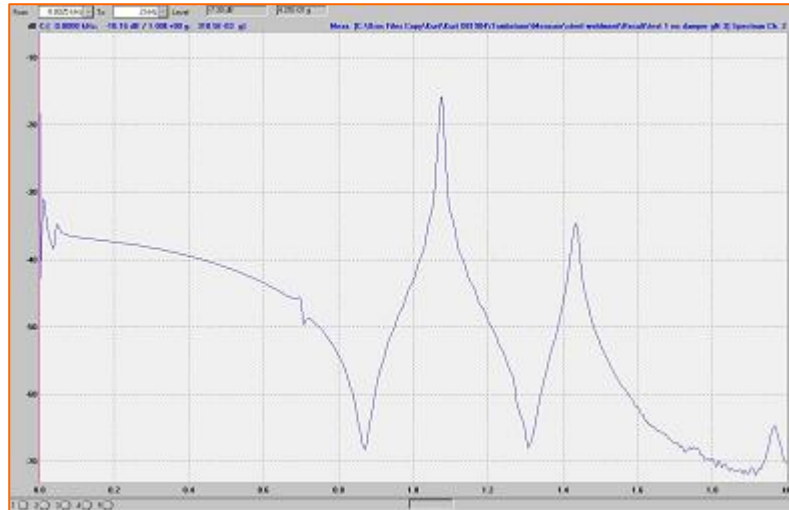
3DView: 620 Hz



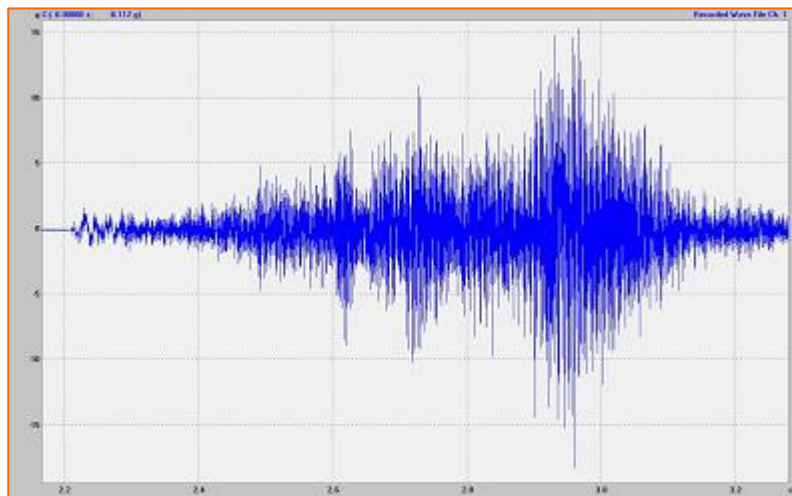
Amp: 1.0, Dwell: 10
Dir(g): X,Y,Z Persp: +10



Animation of a simplified structure is helpful in visualizing dynamic behavior.



Forced response testing (sometimes referred to as a bump test) identifies the natural frequency(s) of a structure as triggered by an impact from an instrument hammer.



Run-up or coast-down recordings are often used to show resonance in rotating machinery.

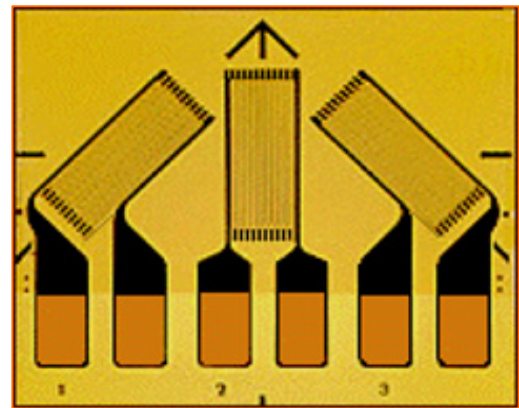
Exp. Stress Analysis

Experimental stress analysis provides the magnitude and direction of stresses in a structural member by measuring the strain at the surface of the specimen. Whether verifying a new design or troubleshooting an existing design, the application of strain gage technology provides a reliable and cost effective measurement of structural loading. The sensing element most commonly used is a thin film, bonded strain gage that is very small, accurate, and is easily installed in the field. Applications can range from airframes to bicycles and medical devices.

ABS Indonesia Engineering Services has the necessary equipment and expertise to perform accurate measurements and aid in the interpretation of results

Static testing:

Once the gage is correctly installed, strain can be measured directly with the use of precision signal conditioning equipment. Since stress is proportional to strain using poisons ratio, the stress can be calculated directly from the gage output. The use of a three axis rosette provides the magnitude and direction of the principal stress. The gages can be placed directly on radius' where the stress is normally the highest and in difficult to reach small areas as small as 3mm.



Dynamic tests:

The strain gage is an excellent transducer of structural motion as well as strain. Because it can resolve deflections of millionths of an inch, it provides an accurate real time picture of the response of a structure to a forcing function when used in conjunction with a signal analyzer. This is especially useful when speeds are below the effective range of accelerometers. Applications include very low speed bearing analysis, seismic measurements, and recording of a structures motion.



Contact Us



ABS Indonesia Electrical Services

Phone : +62 22 4264000

Fax : +62 22 4232694

Email : marketing@absindo.com

HISTORY

Mining, energy, oil and gas industry has always played an important role in the world today and an inseparable part of human life, even the existence of life in its true sense.

PT. Australian Belt Scraper Indonesia (ABS Indonesia) was established in November year 2007. It is the answer for a total solution service system as an attribute of world Class Company. ABS Indonesia provides a comprehensive range of general and specially services for the trading, Industrial Equipment, Spare Part, Field Equipment, Consultant, Engineering, Construction, Installation, Man Power Consultant, Maintenance, Human Resource Management, Industrial Design, Fabrication, Manufacture, Industrial Inspection and Testing, and Transportation.

ABS Indonesia focuses on wide range project in Mining, Energy, Oil and Gas, Food and Beverages, Agriculture, Stockbreeding, Plantation, Fishery, and General Industry. It is including project management, metal component fabrication and on-site assembly of oversize components. Ancillary services include engineering, manpower and maintenance. Computer-aided design facilities enable efficient and accurate fabrication of custom components to the most exacting specifications.

CONTACT DETAIL

PT. AUSTRALIAN BELT SCRAPER INDONESIA

Jalan Cihampelas 48B,
Bandung 40116
West Java, Indonesia.

Phone +62 (22) 4264000

Fax +62 (22) 4232694

E-mail marketing@absindo.com

www.absindo.com