

Goodall Infrared Services

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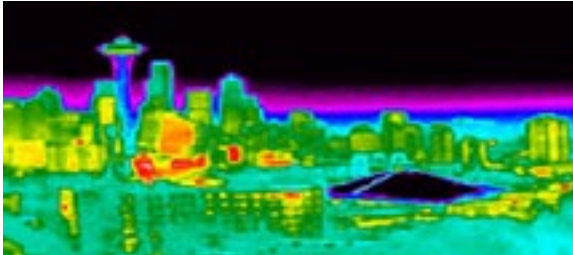
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www.goodallinfrared.com



Goodall Infrared Services is a consulting/ service firm which has been in business since 1978. Over the years we have conducted a variety of surveys including electrical, roof, research and development, process control and quality control for clients large and small all over the United States.

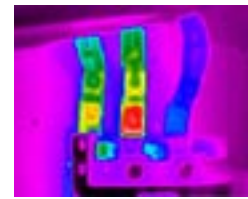
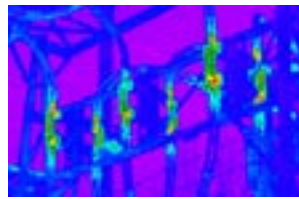
Infrared thermal imaging is unlike any other non-destructive testing technique. It is a versatile tool available to industry. It is not restricted to one area but can be utilized in detecting everything from a hot bearing to a leaking flat roof.

Applications of infrared thermography are limited only by one's imagination. Wherever a surface temperature differential will indicate an abnormal condition there is a potential use for infrared thermography.

APPLICATIONS FOR INDUSTRY

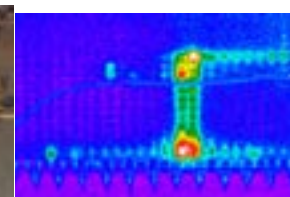
Electronic Equipment

- Thermal mapping of semiconductor devices
- Evaluate circuit board components
- Inspect hybrid microcircuits
- Inspect solder joints
- Trend heating of microprocessors
- Evaluate efficiency of cooling systems



Electrical

- Detect problems quickly and without service interruption
- Assess priorities for corrective action
- Minimize preventative maintenance and troubleshooting time
- Reduce unscheduled power outages
- Comply with insurance company requirements
- Check for defects in electrical equipment while still under manufacturer warranty



Steam Turbine-Driven Generators & Hydroelectric Generators

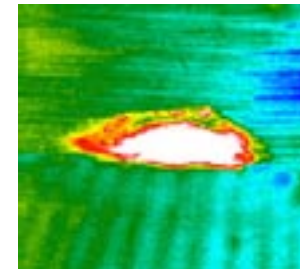
- Locate interlaminar faults in stator cores
- Monitor effectiveness of repairs to the damaged areas
- Help maintain quality control during a stator core repair
- Obtain a "thermal fingerprint" of the stator core that can serve as a permanent record of the condition of the stator core following repairs

Environmental Clean-up

- Locate old waste disposal sites on large tracts of land via aerial surveys
- Locate old buried tanks on industrial sites

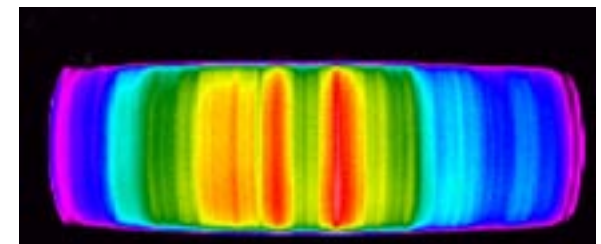
Building Envelope

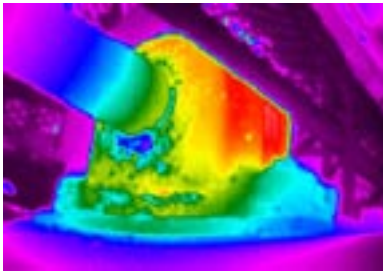
- Locate missing or damaged insulation
- Identify air leakage energy losses
- Evaluate thermal performance of retrofits
- Provide hard copy proof of problems
- Locate radiant heating (piping or cables) in ceilings or floors of buildings or sidewalks



Pulp and Paper

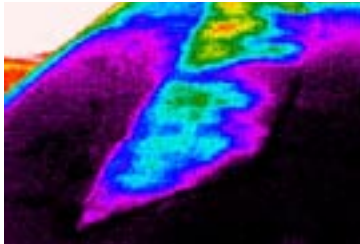
- Analyze paper machines for uneven heat distribution in fourdrinier steam boxes; find moisture streaks; locate sheet formation problems; evaluate water carrying tendencies of paper machine clothing; control paper calendar-ing operations; evaluate dryer section performance; control size press
- Detect digester leaks in digester blow valves
- Look for refractory damage and accumulating build-up in lime kilns
- Analyze precipitators for leaks
- Look at tubes in recovery boilers





Production, Process and Machinery

- Identify leaking steam traps and lines
- Troubleshoot heat-production/distribution problems
- Detect excessive friction in mechanical systems
- Provide cost effective quality control of a product
- Inspect cooling coils for plugged lines
- Detect defects such as voids and inclusions in castings
- Locate hot bearings
- Spot defects in laminated materials
- Diagnose problems in rotating machinery



Roofs and Moisture Damage

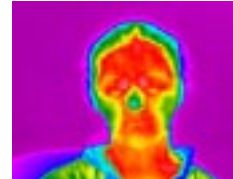
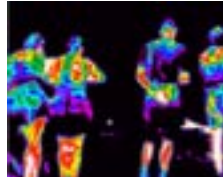
- Identify water damaged portions of a roof quickly and accurately
- Eliminate unnecessary replacement of good roofing
- Plan accurate budgets for roof maintenance and repair based on facts
- Document problems on new roofs or reroofing before the warranty/bond expires

Oil Refining

- Show exact locations of refractory degradation on the surfaces of furnaces, boiler, cat crackers
- Detect leaks in oil and gas pipelines
- Survey temperature distribution on furnace tubes and detect coke build-up in furnace tubes

Research

- Look at anything that has a thermal pattern
- Determine if the thermal pattern has value for improving operation or efficiency of equipment
- Set-up a testing procedure to gather data



Other Categories

- Locate low-intensity sleeper fires on forest lands
- Locate lost people
- Remote sensing applications
- Detect insulation voids in refrigerated compartments and cold storage facilities
- Detect RF heating in antennas, waveguides, guywires, and frame structures
- Detect laminations in concrete bridge decks

We would like to be of service to you. What use of infrared would you like to try?

Do you have questions about applications and services? Visit our website:

www.goodallinfrared.com or call

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