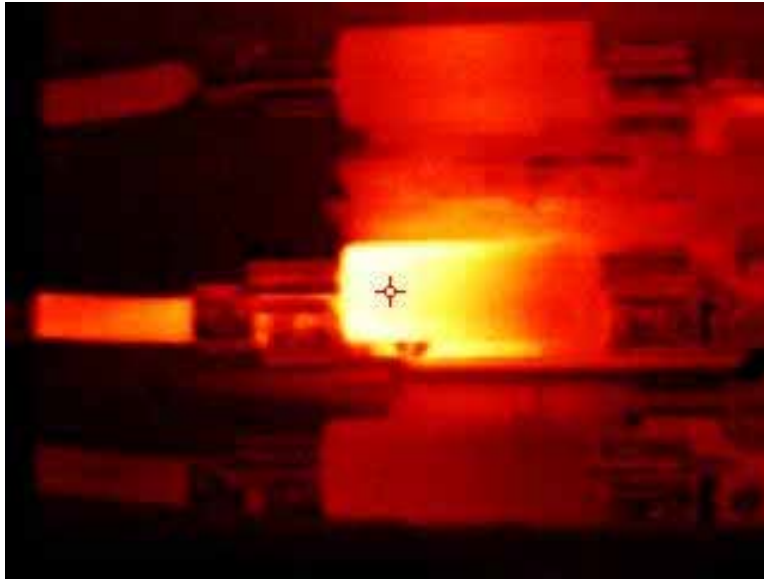


Thermographic Introduction

Booklet



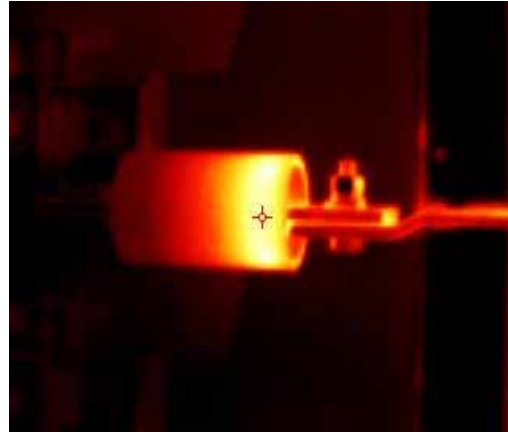
People Pride Service Since 1984

Suite 104, 19232 Enterprise Way, Surrey, BC V3S 6J9
Office: 604-574-0346 Fax: 604-574-1203 w.k.litespan@telus.net

THERMOGRAPHIC INSPECTION SERVICES



YOU SEE THIS



WE SEE THIS

SOLUTIONS TO HIDDEN PROBLEMS

WHAT IS THERMOGRAPHY?

Infrared thermography is used to perform preventative maintenance inspections on electrical equipment. Excessive resistance (heat) on an electrical apparatus indicates electrical faults such as loose connections, overloaded or imbalanced circuits, faulty breakers, damaged switches, faulty fuses and a wide range of other unwanted electrical conditions. Before a component burns up, it heats up. Thermography is used to see the excess heat (resistance) so that problems can be found and can be acted upon to correct the problem before the component fails, causing damage to the component, safety hazards and/or production downtime. With facilities open 24 hours a day, the need for preventative maintenance is the key for no downtime and loss of production.

“An innovative approach to preventive maintenance”

DON'T LET YOUR REPAIRS SCHEDULE YOU!

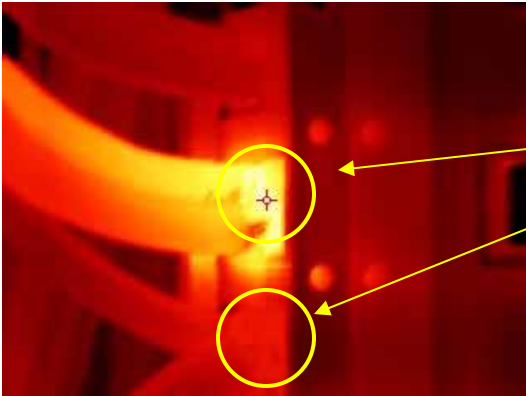
SAVE DOWNTIME EXPENSES!

PREDICT FAILURES!

PREVENT ACCIDENTS!



There is an abnormal temperature range on main electrical service.



Phase B load connection shows excessive heat – possible loose connection.

B phase – 84.2 degrees Celsius

C phase – 57.5 degrees Celsius

Action Plan:

Re-terminate conductors using Penetrox joint compound and torque the terminations to the specifications of the manufacture. Open cover and check for signs of heat, discoloration, melted insulation or plastic, burns or signs of electrical arcing. Remove the breaker and check the integrity of the bus connection.

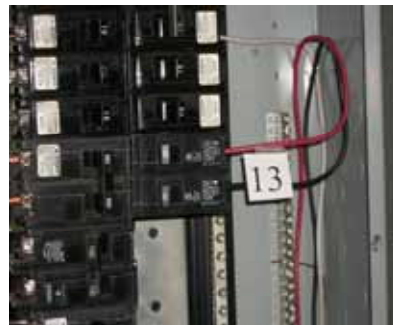
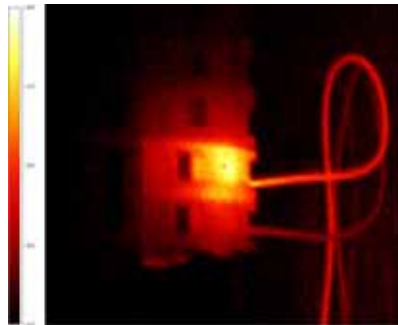
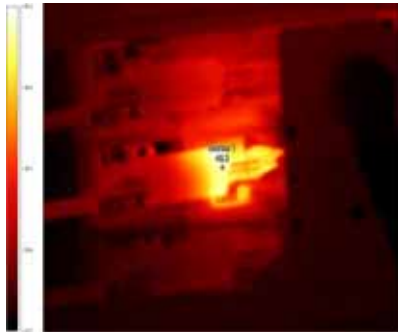
Inspection:

Could you ever lose production time due to an electrical problem? If you could predict the health of your equipment and prevent downtime, would you? If you answer yes to these questions then you have determined that you can benefit from a Thermographic Inspection. While no one can predict exactly when an abnormal condition will cause equipment failure, THERMOGRAPHY allows corrective action to be taken in advance.

What Else Should I Know?

A Thermographic Inspection is non-contact and is safe to perform on energized electrical systems. Thermography is best done when your business is operating normally.

Electrical System



Thermograph – What We See

Photograph – What You See

The infrared electrical systems survey is typically conducted on an annual basis as part of a regular preventive maintenance program. The survey allows for inspection of a large amount of equipment in a short time as opposed to the other method of physically inspecting and tightening components. The infrared survey locates faulty items not generally found during a physical inspection.

The Infrared Electrical System Survey locates problems before they lead to an unscheduled outage, equipment damage or a fire.

THERMOGRAPHIC REPORT

8/10/2011

COMPANY

Name Litespan Electric Ltd.
Address #104 - 19232 Enterprise Way
Surrey, BC V3S 6J9

INSPECTOR

Name Lyle Robertson
Address

Equipment
Distribution #1
'Unit 7261' Disconnect Switch

PROBLEM DESCRIPTION

Problem 15
High heat in 'B' phase of disconnect switch.

RECOMMENDED ACTION

Remove and install new fuses. Clean and tighten connections.
Work to be completed after normal business hours.

Repair Priority

High



Next Inspection

8/10/2012

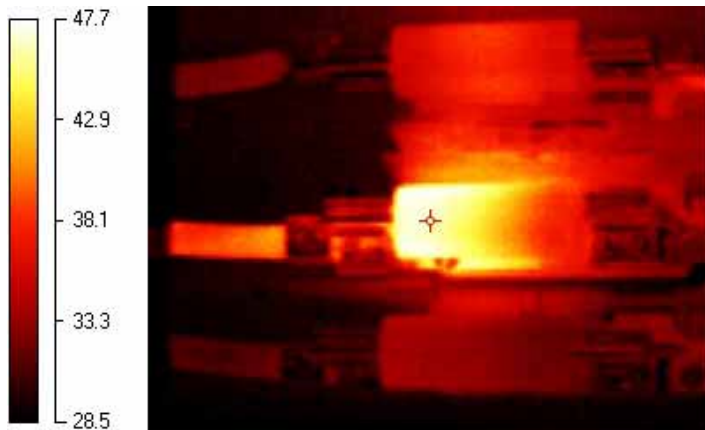
IDENTIFICATION

Location Name
Electrical Room 2

Nameplate #
Unit 7261 - Akari Japanese Restaurant

Equipment Type 100-amp, 240-volt, 3-pole disconnect switch

THERMOGRAM



REFERENCE IMAGE



TEMPERATURE MEASUREMENTS

Image Date 8/9/2011 11:14:09 AM
Target Temperature 46.3 °C
Emissivity 0.95
Reflected Temp 1 °C
Distance 24 inches

ENVIRONMENTAL CONDITIONS

Air Temp 22 C
Sky
Wind Speed
From

ASSET OPERATION CONDITIONS

	A	B	C
Max Rated Load	100	100	100
Measured Load	15.7	16.2	23.8
Percent Load	15.7	16.2	23.8