
Therm iR Ltd

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Sample Report No1

Client No xxxxxxxx

Survey No xxxxxxxx-01

Prepared for:

Mr Sample Report

SAMPLE HOUSE
28 Non Existent Road
Essex
U.K
XX1 2YZ

Contact - +44 1234 567890
Email - sample.report@nonexistant.com

Thermographer - Colin Wilson

Thermal Imager - Fluke Ti32
Lens FoV 23° x 17°
320 x 240 Focal Plane Array
NETD <0.05°C @ 30°C (50mk)

Survey Requirements

Therm iR Ltd has been requested to carry out a thermographic survey at the following site

Address	SAMPLE HOUSE 28 Non Existent Road Essex U.K XX1 2YZ
Contact Name	Mr S.Sample
Contact Mobile	+44 1234 567890
Contact Email	sample.report@nonexistant.com

This report will provide information that can be utilized for immediate repair / investigation where recommended and provide ongoing data that can be utilized in a preventative maintenance program.

A discussion of requirements will be undertaken prior to the survey date, this will generate a list of objects that require inspection, access arrangements that may be needed i.e permits and any site inductions that may be needed i.e CSCS cards etc. (I have site electrical service engineer CSCS card for these instances).

This sample report has been generated to give you a representative outline of the services that Therm iR Ltd can undertake. Plus demonstrate the format of the report that follows up all thermographic surveys.

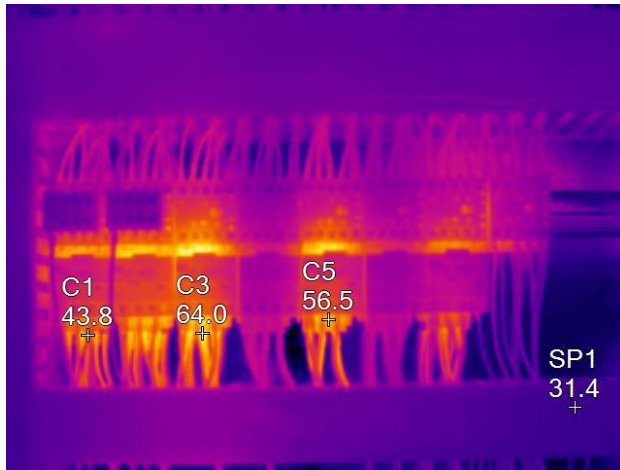
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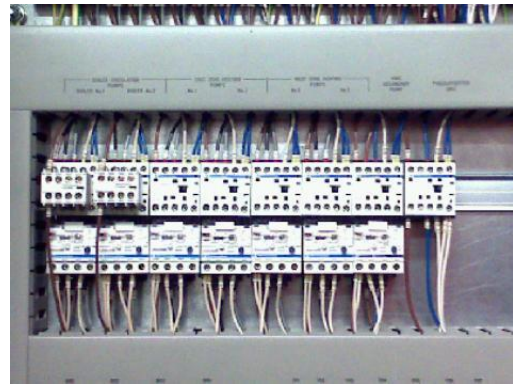
Severity Categories	Colour Code	Description
<i>none</i>	Plain Text	No further actions required
<i>Low</i>	Green	Maintain monitoring and inspections
<i>Medium</i>	Blue	Action at next scheduled maintenance shut down
<i>High</i>	Red	Immediate action required

Industrial plant room survey

Boiler Control Panel – Contactors



001.IS2



Visible Light Image

Image Label	Description	Value
SP1	Reference temperature	31.4
C1	Contactors No1	43.8
C3	Contactors No3	64.0
C5	Contactors No5	56.5

Temperature Value Explanation
SP1 used as a local Ambient temperature value. For referencing against other noted values.
$C3 - C1 = 20.2^{\circ}\text{C}$
$C3 - C5 = 7.5^{\circ}\text{C}$
Max rise over SP1 = 32.6°C

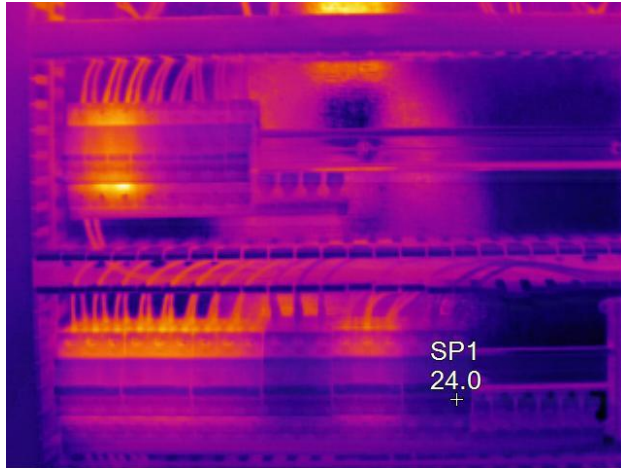
Location	Main Boiler Room	Fault Severity	low
Description	Control panel BR1	Date of Survey	15 th August 2015
Full Load Rating	n/a	Other.	
Actual Load	n/a		

Image Analysis
Contactors 'C3' slightly elevated temperature compared to C1, C2 and C5. Check load current and application of this contactor at next convenient maintenance schedule. May be indicative of overload and degenerative condition.

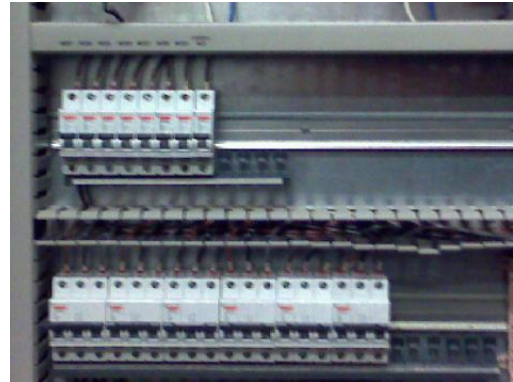
Thermographer	Name – Colin Wilson		
Follow up Action	Name -	Date Completed -	

Industrial plant room survey

Boiler Control Panel – MCB



002.IS2



Visible Light Image

Image Label	Description	Value
SP1	Reference temperature	24.0

Temperature Value Explanation

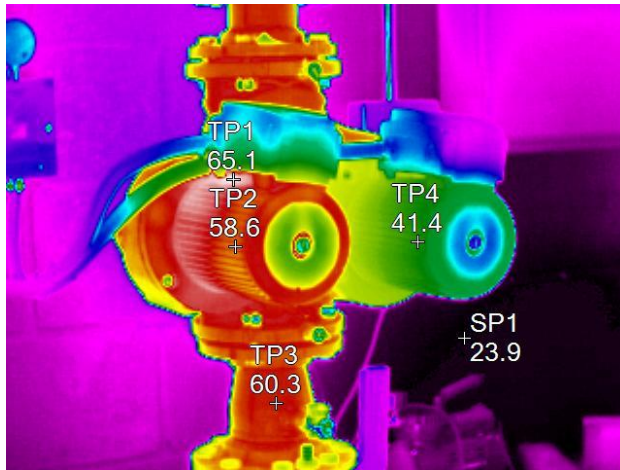
Location	Main Boiler Room	Fault Severity	none
Description	Control Panel BR1	Date of Survey	15 th August 2015
Full Load Rating	n/a	Other.	
Actual Load	n/a		

Image Analysis
This image showing MCB protection devices. No issues evident

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Industrial plant room survey

Boiler Room - Circulation Pump Motor



003.IS2



Visible Light Image

Image Label	Description	Value
SP1	Reference temperature	23.9
TP1	Motor Max temperature	65.1
TP2	Motor temperature	58.6
TP3	Inlet temperature	60.3
TP4	Secondary Motor temperature	41.4

Temperature Value Explanation
Maximum motor temperature seen as 65.1 °C. Compared to inlet temperature of 60.3 shows this motor is running at a rise of only 4.8 °C.

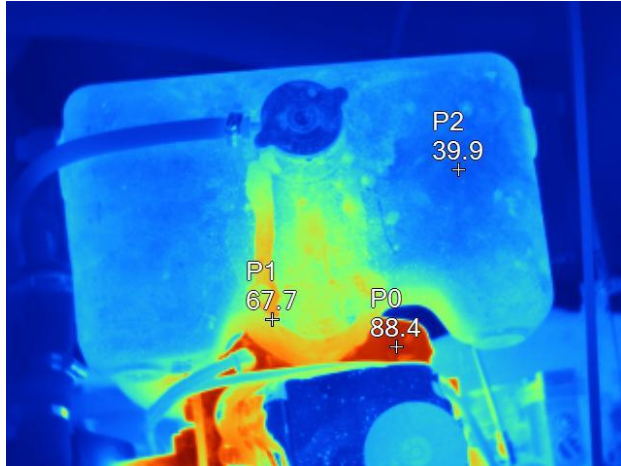
Location	Main Boiler Room	Fault Severity	None
Description	Circulation Pump No1	Date of Survey	15 th August 2015
Full Load Rating	n/a	Other.	
Actual Load	n/a		

Image Analysis
Circulation pump and motor showing minimal motor temp rise compared to inlet temperature. No issues represented. Image will now form part of the ongoing preventative maintenance program.

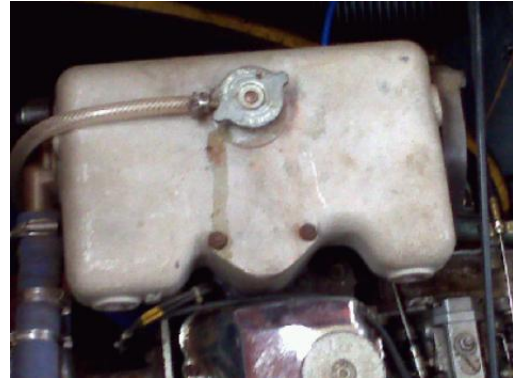
Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Marine Engine Survey – Thermostat and Engine Temperature measurements

Thermostat Closed – Engine Block up to working temperature



004.is2



Visible Light Image

Image Label	Description	Value
P0	Engine Block	88.4
P1	Thermostat housing	67.7
P2	Heat Exchanger unit	39.9

Temperature Value Explanation
Main engine block P1 reached max temp prior to thermostat opening. P2 is the header tank / water exchanger temperature. P1 showing thermostat on point of opening.

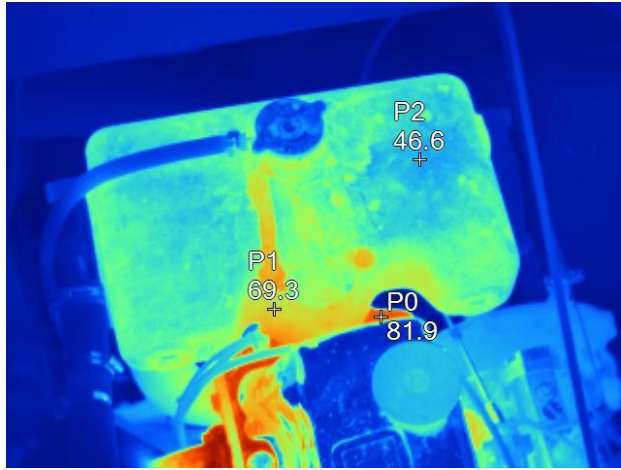
Location	Starboard engine	Fault Severity	none
Description	Ford 2700 series	Date of Survey	28 th May 2014
Full Load Rating	150BHP	Other.	
Actual Load	Approx 50%		

Image Analysis
<p>The survey was requested to determine correct operation of the cooling system thermostat. Opening expected at 85°C. The following 2 images show the thermostat operating and the engine block temperature lowering to final operating level of around 83°C.</p> <p>Correct operation of the thermostat was visualized and point of operation is as stated approx 80-85°C.</p> <p>Engine temperature gauges also show correct temperature of the engine.</p>

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Marine Engine Survey – Thermostat and Engine Temperature measurements

Thermostat open



005.is2



Visible Light Image

Image Label	Description	Value
P0	Engine Block	81.9
P1	Thermostat Housing	69.3
P2	Heat Exchanger	46.6

Temperature Value Explanation
Main engine block P1 temperature now decreasing after thermostat opening. P2 is the header tank / water exchanger temperature. P1 showing thermostat now opening.

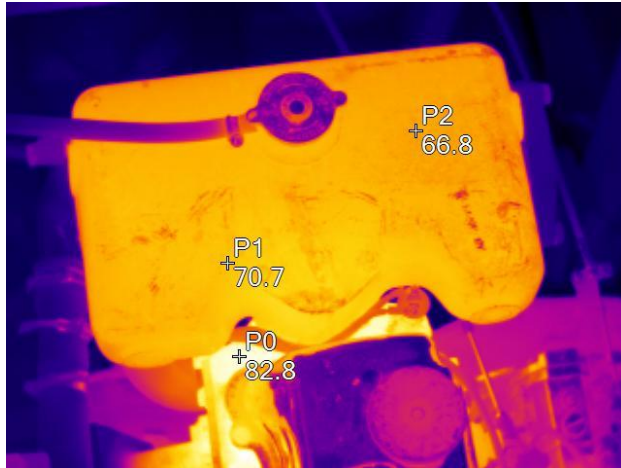
Location	Starboard engine	Fault Severity	none
Description	Ford 2700 series	Date of Survey	28 th May 2014
Full Load Rating	150BHP	Other.	
Actual Load	Approx 50%		

Image Analysis
Thermostat has now started to open. Engine block temperature shown to decrease and the exchanger temperature rising.

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Marine Engine Survey – Thermostat and Engine Temperature measurements

Stabilized Engine Temperature



006.IS2



Visible Light Image

Image Label	Description	Value
P0	Engine Block	82.8
P1	Thermostat Housing	70.7
P2	Heat Exchanger	66.8

Temperature Value Explanation
This final image is showing stable temperatures after the engine has been allowed to reach final operating temperature.

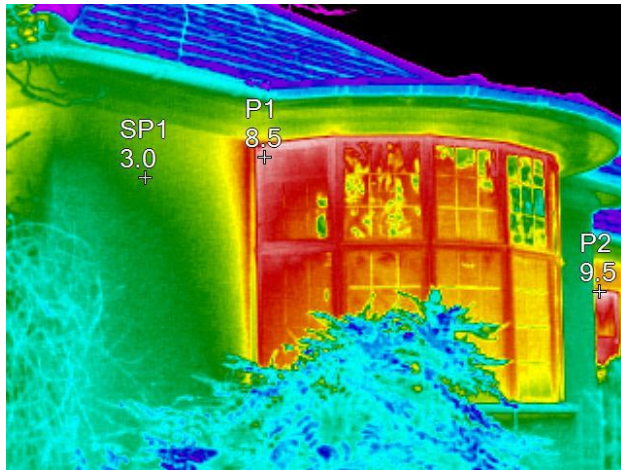
Location	Starboard engine	Fault Severity	none
Description	Ford 2700 series	Date of Survey	28 th May 2014
Full Load Rating	150BHP	Other.	
Actual Load	Approx 50%		

Image Analysis
The engine has been allowed to settle at final operating temperatures for the current load of approx 50%. The final temperatures shown are indicative of an efficient cooling system and a correctly functioning thermostat.

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Domestic house insulation / efficiency survey

House survey - Front Bay Window



007.IS2



Visible Light Image

Image Label	Description	Value
SP1	External wall	3.0
P1	Main lounge window	8.5
P2	Sitting room window	9.5

Temperature Value Explanation

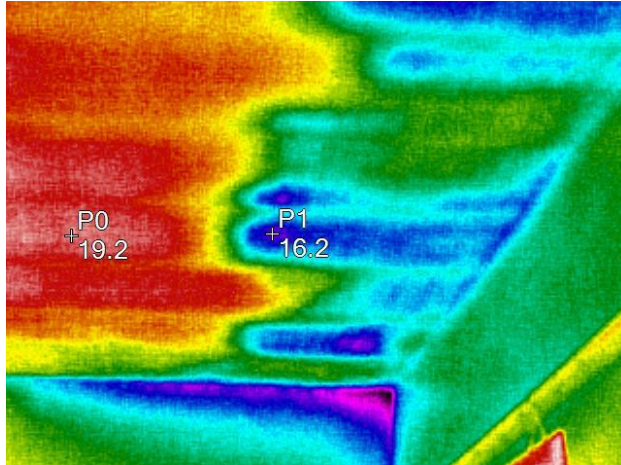
Location	Front of house	Insulation Severity	medium
Description	Window survey	Date of Survey	08 th January 2014
Outside Temp	2°C	Other.	Outside temp stable and no rain for 24 hours
Internal Temp	Lounge 15°C Sitting room 19°C		

Image Analysis
<p>This image showing the poor insulation of old style single glazed windows.</p> <p>Further insulation in the form of secondary glazing, or ideally replaced with modern double glazed units.</p>

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Domestic house insulation / efficiency survey

Front Room – Ceiling



008.IS2



Visible Light Image

Image Label	Description	Value
P0	Good insulation	19.2
P1	Poor area of insulation	16.2

Temperature Value Explanation
Area to the right nearest wall shows distinct line of poor or missing loft insulation.

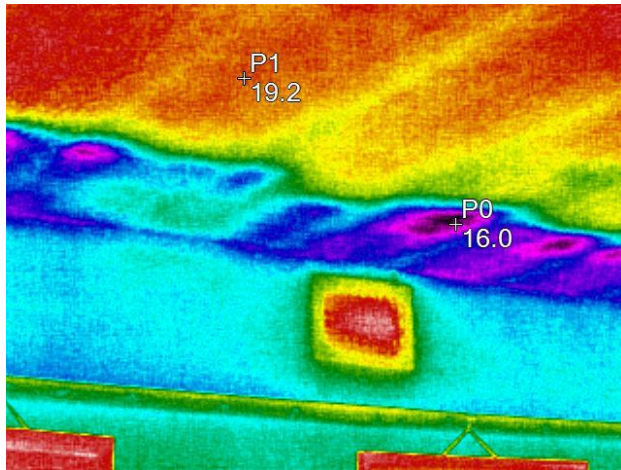
Location	Sitting room	Insulation Severity	high
Description	Ceiling / loft insulation	Date of Survey	08 th January 2014
Outside Temp	2°C	Other.	
Internal Temp	Sitting room 19°C		Outside temp stable and no rain for 24 hours

Image Analysis
<p>This image showing area of very poor or missing loft insulation (shown in progressively blue colouration).</p> <p>Loft space investigation required to establish extent of problem.</p>

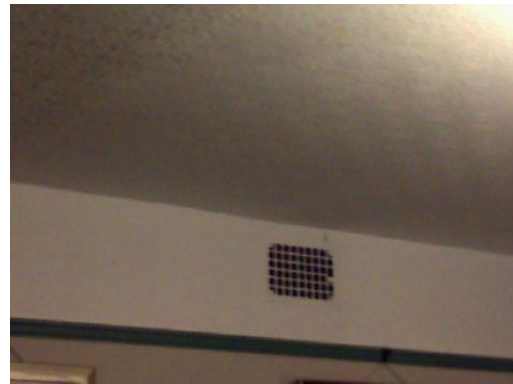
Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Domestic house insulation / efficiency survey

Front Room – Ceiling (continuation)



009.IS2



Visible Light Image

Image Label	Description	Value
P1	Good insulation	19.2
P0	Poor area of insulation	16.0

Temperature Value Explanation

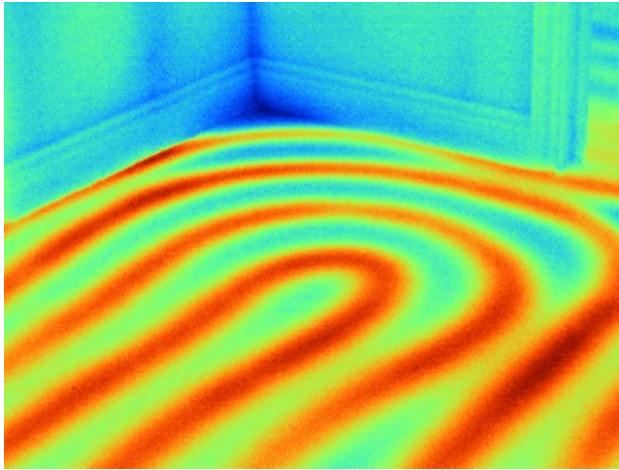
Location	Sitting room	Insulation Severity	high
Description	Ceiling / loft insulation	Date of Survey	08 th January 2014
Outside Temp	2°C	Other.	Outside temp stable and no rain for 24 hours
Internal Temp	Sitting room 19°C		

Image Analysis
Continuation of image '008', showing very defined area of poor insulation.

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Domestic / Commercial Under Floor heating surveys

UnderFloor Heating



010.IS2



Visible Light Image

Image Label	Description	Value

Temperature Value Explanation

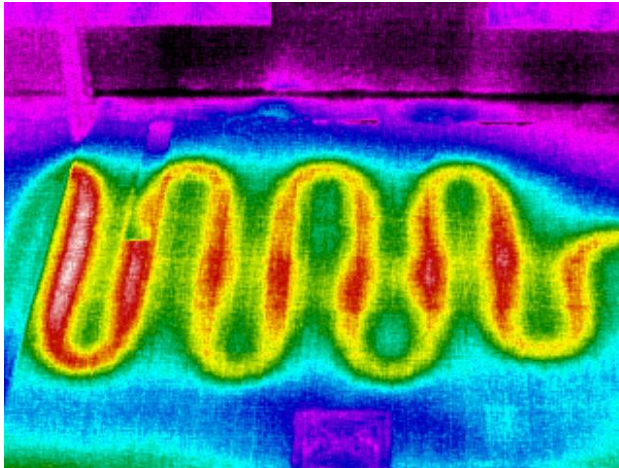
Location	Rear main room	Insulation Severity	none
Description	Under Floor Heating	Date of Survey	26 th April 2013
Outside Temp	15°C	Other.	
Internal Temp	19°C	Under floor heating stable for 4 hours	

Image Analysis
<p>This image clearly shows the position of the buried underfloor heating pipe run, within the solid screeded floor.</p> <p>Included in this sample report to demonstrate the usefulness of Thermal Imaging in following situations :-</p> <ul style="list-style-type: none"> • Locating buried heating pipe runs when fixing objects mechanically to the floor • Location of leaking buried pipe runs, minimize destructive access to the floor • Determine effectiveness of the Under Floor heating system

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Domestic Bathroom Floor Repair

Electric Under Floor Heating



011.IS2



Visible Light Image

Image Label	Description	Value

Temperature Value Explanation

Location	Upstairs Bathroom	Functional Severity	none
Description	Under Floor Heating	Date of Survey	06 th September 2015
Outside Temp	n/a	Other.	Under floor heating stable for 2 hours
Internal Temp	20°C		

Image Analysis
<p>The client was carrying out tile remedial works along the top wall. The tile along the top edge was required to be cut back slightly to affect the repairs to the floor. Due to the electric underfloor heating elements being present, the extent of tile removal was not known. Following the Thermal Imaging survey, the amount of tile that could be cut back was established and works could proceed safely.</p> <p>This saved the task of replacing the entire Bathroom flooring plus installing new electric under tile heating elements.</p>

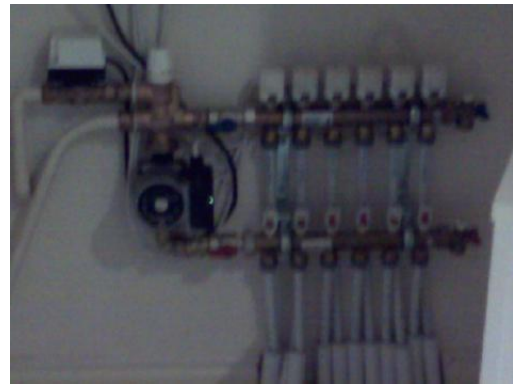
Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Commercial Heating System

Under floor Heating Manifold



012.IS2



Visible Light Image

Image Label	Description	Value
P1	Inlet temperature	68.0
P2	Outlet temperature	52.2
P3	UFH return	48.8
P4	UFH feed	52.9

Temperature Value Explanation

Location	Ground Floor Room 3	Functional Severity	none
Description	Under Floor Heating	Date of Survey	22 nd October 2012
Outside Temp	n/a	Other.	Under floor heating stable for 4 hours
Internal Temp	20°C		

Image Analysis
<p>This Thermal Image Survey was required to quickly set the blend temperature of the system and determine equal feeds to each of underfloor heating circuit.</p>

Thermographer	Name – Colin Wilson	
Follow up Action	Name -	Date Completed -

Summary

This sample report has been generated based on actual Thermographic surveys under taken.

They represent a broad spectrum of applications where Thermography can be utilized to save time and plan future maintenance programs.

There are many other instances where a Thermal Image can be a very useful tool, a recent one being where a prototype boat mould has been produced with an experimental hollow core. This will then be water heated to speed up the epoxy curing process. I produced the heating apparatus for this project and was invited to help evaluate the heating process of the mould. With the aid of thermal imaging, the mould core temperature distribution was established and flow rates adjusted to suit the epoxy curing process. Based on the images, this company now uses the new technology to further its sales through demonstration seminars.

I am always interested in unusual applications and welcome a call or email to discuss your requirements.

Please see www.thermir.co.uk for further information.

My personal **Linked In profile** can also be accessed via my web site, you can be assured of a professional service.

Thank you for your interest in my company

Colin Wilson

Director and Thermal Imaging Consultant

Therm iR Ltd