

REPORT ON THE INSTALLATION AND AN INITIAL ASSESMENT OF PERFORMANCE OF RADFLEK IN A PROPERTY IN BRADFORD ON AVON

What is Radflek?

Radflek is an energy saving radiator reflector. The manufacturer claims that it reflects 95% of the wasted heat energy radiated from the rear of a radiator back into a room. Radflek is described as a laminated aluminium foil with a long lasting coating that prevents oxidation and preserves its high reflectivity. Hence with Radflek fitted you should use less energy to heat rooms and so energy bills will be less.

It is worth noting that it is designed and manufactured in the UK and is used commercially. Also the Building Research Establishment and the Energy Saving Trust have certified it. It can be ordered directly from the manufacturer via the website - <http://www.radflek.com/>. More information about Radflek and how it is fitted is available at the website too.

The Property

The property is a two up, two down cottage with the living room and bedroom in the old stone walled part, which is at least 150 years old. The walls are solid stone and are a minimum of 52cm thickness. The window surrounds in this older part are mullion – stone – and the window frames are hardwood with thin double glazed units. The kitchen and bathroom is a 1980s (?) extension which has cavity wall insulation and double glazed UPVC windows. The cottage has recently had warm roof technology installed (thermal felting and retilled) and gas central heating.

Ease of Installation

There is no need to either remove radiators or stick anything to the wall. Radflek just hangs from the wall brackets behind the radiator and importantly it disappears from view once installed. Installation is quick and simple taking minutes - anyone can do it!

The Radflek cost me £23.98 to buy and have it shipped direct to me. It arrived in 3 working days. I am NOT a DIYer but with a tape measure and a sharp pair of scissors, the Radflek was very easy to fix. I adapted the fitting of Radflek behind the small toilet radiator, following instructions from the manufacturer's website. I would have used that method for the other radiators if I had known how effective it would have been. This adaption allows for the Radflek insulation to go above and to the sides of the radiator brackets, rather than just in between them.

Date of Test and Weather Conditions

The thermal images were taken on 2 consecutive days - 18th and 19th January, which were reported to be the coldest days of the winter so far, with minus temperatures overnight and much of the days (Benson recorded overnight temperatures of minus 8 degrees).

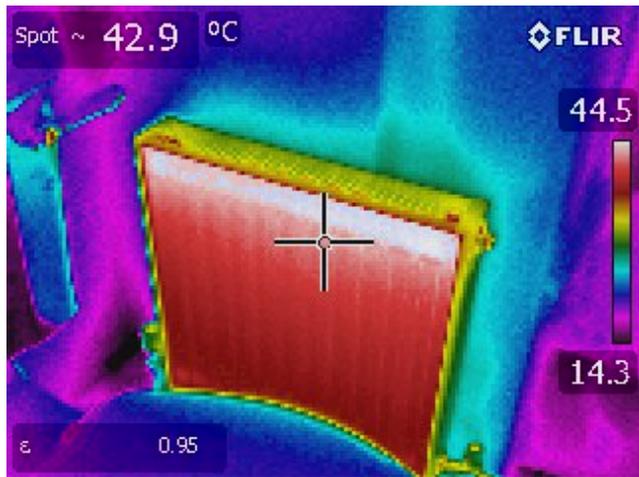
Reliability/Fair Testing

As the images and readings were taken on 2 different days due to the need for time to fit the Radflek, plus time for the walls to cool down after being heated by the radiators, the results are not totally reliable. Also this was my first time using the camera on my own – I am not an expert! However I am confident that I can draw some conclusions from the results, as seen by the photographs below. When comparing the images please look at the sliding scale on the right as this differs for each image. The scale refers to that image only. On both days the central heating had been turned on for at least 2 hours before images were taken. 'Spot' on the images shows the temperature in the centre cross. The temperatures at the top and bottom of the scale on the right show the maximum and minimum temperatures in the image.

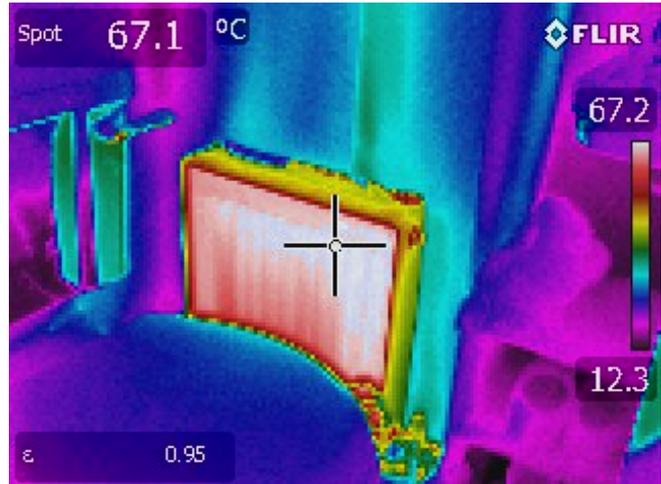
Results

I took thermal images of the radiator in the small downstairs toilet (1980s part of the house) before and after the fitting of the Radflek. This appears to show that the room was warmer and the radiator hotter (the boiler temperature settings remained the same on both days) after the fitting of Radflek – images a. and b.

Before

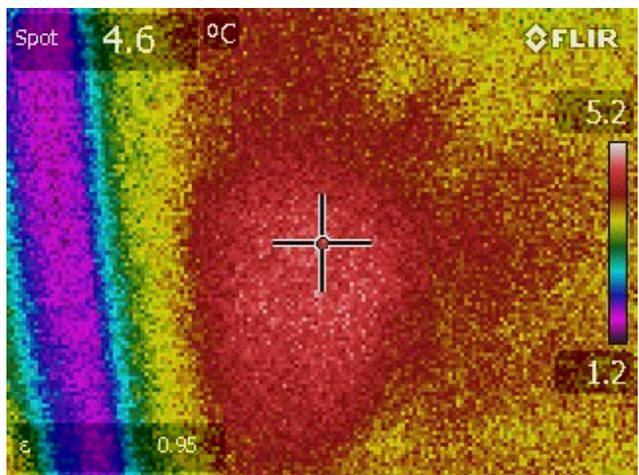


After

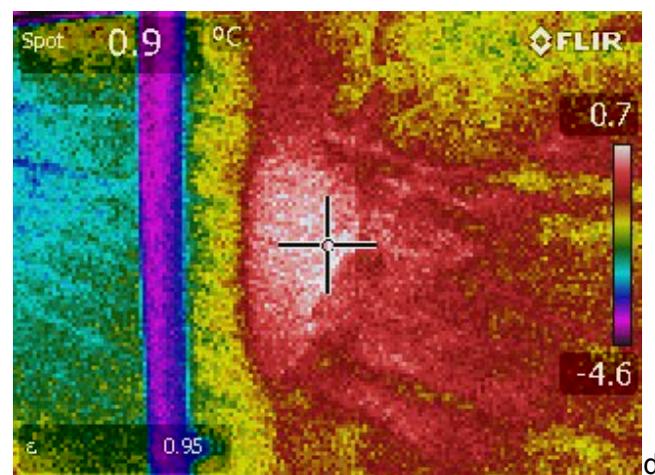


Images c. and d. show the wall outside the house behind the toilet radiator. The temperatures were below freezing as I saw frost on my car. Again the spot temperatures are very different, showing that it appears that less heat is escaping through the wall.

Before

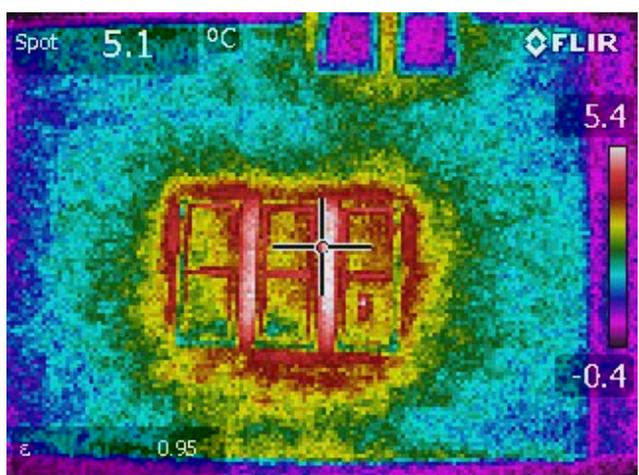


After

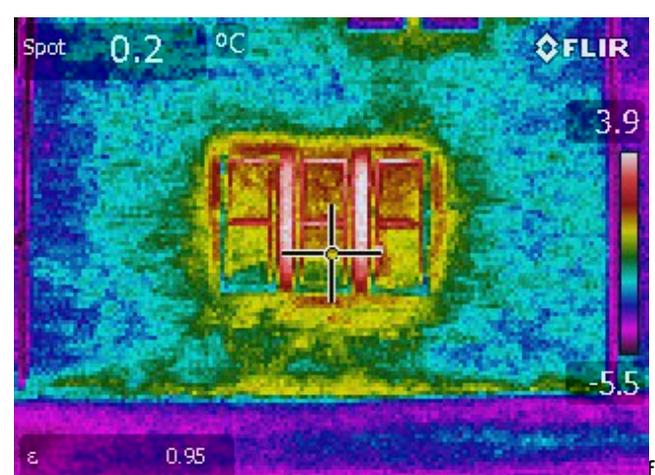


The thermal images taken outside of the front living room window clearly show less heat escaping through the window and wall. Unfortunately I did not take an image with the 'spot point' below the window before the Radflek was fitted – a serious omission (!). Images e. and g. ('before') show heat escaping below the windows as well. However the 'after' photos (f. and h.) show less heat loss. Of further interest is that these photos show that the stone mullions do not have good insulating properties.

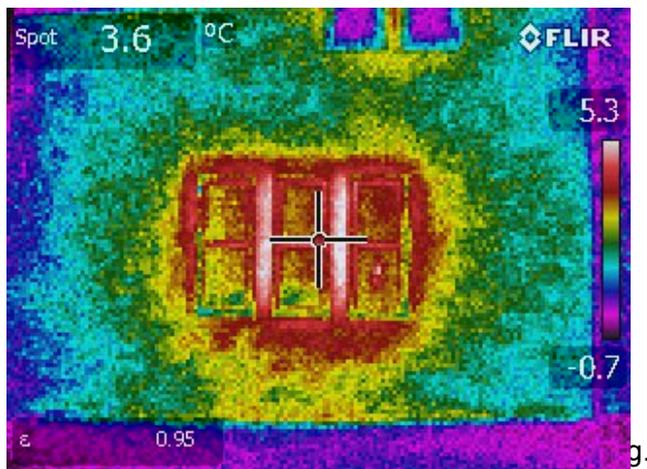
Before:



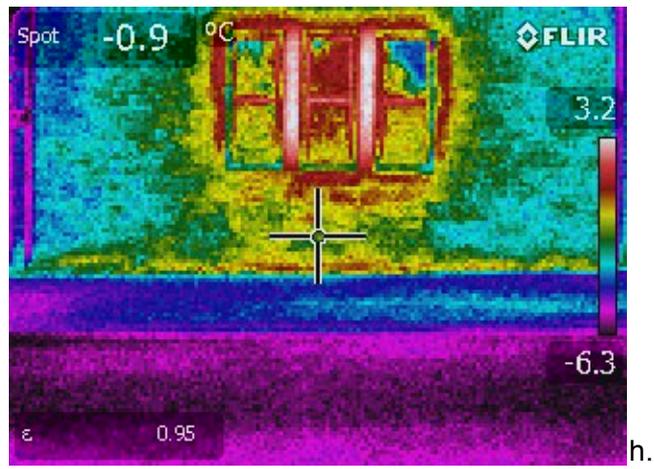
After:



Before



After



Conclusions:

Although these results are limited in their reliability, as a home owner taking thermal images of my own house, it has been very informative and proved to my satisfaction that the Radflek has made a difference. I have also taken images (not shown here) inside the property, looking behind the radiators, plus I have used my hand and felt the inside walls behind the radiators both before and after the Radflek fitting and found a notable difference. As the walls in the old part are over 52cm thick, I feel that I was wasting a lot of energy heating the fabric of the house rather than the air inside which I need to keep warm.

My initial impression is that the Radflek will direct the radiator heat into the room rather than heating the outside walls of the property. Overall, I am pleased to have increased the thermal insulation of my home for a relatively small cost that I anticipate will be paid back very quickly in the form of reduced energy bills. In addition, I feel satisfied that this will also help to reduce my carbon footprint just a little bit more.

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