Case Study

Wilmcote House

# FIGHTING FUEL POVERTY IN SOCIAL HOUSING

## Portsmouth City Council turns to Dimplex Q-Rad as part of sustainable retrofit of social housing


Since 2014, Wilmcote House in Portsmouth, owned and managed by Portsmouth City Council (PCC), has been undergoing major refurbishment as part of the EuroPHit project, retrofitting the building in accordance with Passivhaus principles to ensure ultra-low energy emissions.

Built in the late 1960's using a prefabricated, reinforced concrete panel system; the building was rapidly becoming a poster child for the problems associated with the period's social housing. Despite being an important part of the local Somerstown community, the building was difficult to maintain and energy inefficient. With just 25mm of insulation and ageing electric heating, residents were finding it prohibitively expensive to stay warm, with many struggling to avoid fuel poverty.

Today, it is on track to become a shining example for sustainable retrofit.

### Customer Profile:

Portsmouth City Council

Location:
Portsmouth, Hampshire

Sector:
Social Housing

Products:

Q-Rad electric radiators

"We are finding that the cost of heating is reduced and that there is a significant reduction in electricity bills."

Amy Lewis, graduate building surveyor, planned maintenance,
Portsmouth City Council

An essential provider of affordable living for the local community, Wilmcote house consists of 107 primarily three bedroom maisonettes, within three linked blocks. Block A is now approaching completion, while work on Blocks B and C is advancing rapidly. To improve the building to meet EnerPHit standards requires the addition of effective insulation and ventilation, as well as the provision of cost effective heating to alleviate fuel poverty in the residences.

Amy Lewis, graduate building surveyor, planned maintenance, Portsmouth City Council explained; "The aim of the whole project is to reduce the heating demand of the properties and to increase the life of the building itself." With the structural characteristics of the building preventing the use of gas heating, electric was only option for heating in the homes - some had storage heaters, others convector heaters and not all homes had a heater in every room. "It was very dependent upon each individual property as to what actual heating they had," says Lewis. "The main aim was to reduce the heating demand required and also for the residents to be able to heat their property to a suitable temperature. A lot of them could not do that before."

With the structural and insulation work completed, work then extends within the maisonettes as they are handed back to Portsmouth City Council's planned maintenance team. It had originally been specified to replace all the heaters in each property with Duo Heat radiators from Dimplex. However, due to the increased amount of insulation and the air tightness that is being put into the building, the Council's team determined that it was not necessary to replace every heater.

"We actually only needed to replace one electric heater in a single room, installing a Dimplex Q-Rad into the lounge only," says Lewis. "The intent is then to wait until we see what is actually required to heat the property efficiently."

Q-Rad is the latest generation of direct acting electric heater and an ideal replacement for conventional convector heaters or electric radiators. Sleek, slim, modern and stylish, Q-Rad is able to heat up more quickly and, by combining a highly accurate electronic thermostat with the latest technology, is able to react more responsively giving residents far greater control over their heating.

Q-Rad's 'Eco-Start' functionality lets the heater decide when to turn on to ensure target temperature is achieved at the selected time. It is then able to monitor the effect of its actions on a room's temperature, calculating precisely how long it takes to get to the desired temperature and when to turn off. It will even reduce output to prevent heat loss by detecting when a window or door is left open. This all helps to minimise the energy used while maximising warmth and comfort for the lowest possible cost.

The installation of the Q-Rads within Block A of Wilmcote House is complete, and through the installation of new external wall insulation cladding and other energy efficient features - including individual mechanical ventilation with heat recover (MVHR) systems bringing cool air into the properties - residents of all 107 units will finally see improvement to their living spaces along with a significant decrease in their energy bills.

Until Blocks B and C are completed each dwelling will, in the interim, retain any existing storage heaters or convector heaters in rooms other than the lounge. These have been left for the time being as the team establishes what is actually required before finalising the necessary heating installations. With the improved efficiency of the Q-Rad some of the residents are already requesting that the remaining old heating be removed from their properties.

"The project is not yet complete," says Lewis. "But generally we are finding that the cost of heating is reduced and that there is a significant reduction in electricity bills."

That is great news for Wilmcote House and a strong indication of the potential success of this approach to retrofitting ageing and failing buildings, improving the homes of residents for many years to come.

Dimplex is the market leader in electric heating appliances and systems. The extensive Dimplex product range spans domestic and commercial heating products, award-winning electric fires and surrounds and one of the widest ranges of renewables solutions available from a single manufacturer in the UK - all supported by unrivalled customer service and aftercare support.

Tel: 0800 028 6122
Email: pre-sales@dimplex.co.uk
www.dimplex.co.uk


## Q-Rad 75 / 100/ 150 / 200 electric radiators

### Key Features

- Advanced touch control system
- Highly accurate electronic thermostat (+/-0.2oC).
- 24-hour and 7-day timer control ensure suitability for commercial applications
- Instant warmth through perfect balance of convection and radiant heat
- 'Eco-Start' delayed anticipatory control
- Open Window Technology automatically reduces output to prevent heat loss
- Low thermal heat mass
- BEAB approved

### Specifications

QRAD75
0.5 kW loading
H546mm x W513mm x D105mm
Convective element 301W / Radiant element 199W
Weight 7.1kg

QRAD100
0.75 kW loading
H546mm x W513mm x D105mm
Convective element 551W / Radiant element 199W
Weight 7.1kg

QRAD150
1.0 kW loading
H546mm x W675mm x D105mm
Convective element 714W / Radiant element 286W
Weight 8.7kg

QRAD200
1.5kW loading
H546mm x W756mm x D105mm
Convective element 1660W / Radiant element 340W
Weight 9.4kg

QRAD200
2kW loading
H546mm x W918mm x D105mm
Convective element 1660W / Radiant element 340W
Weight 11kg