

Solid Wall Homes

Hard to heat or just expensive to insulate

By Paul Munnion, Managing Director of Mould Growth Consultants



Improving the thermal performance of homes is high priority for social and private landlords and private homeowners. However, as more and more cavities are filled and lofts topped up, eventually attention will have to turn to addressing solid wall properties in order to achieve the government targets of not only reducing CO2 emissions but eliminating fuel poverty.

The UK's housing stock is estimated at approximately 24.5 million dwellings. Of that, 36% are made up of non-cavity wall construction - solid brick, solid stone, pre-1944 timber frame and concrete - which equates to 8.82 million homes. There are also a further 1.2 million properties with cavities that cannot be filled and homes with mansard roofs, dormers and also 250,000 park homes. In total, over ten million homes are classified 'hard to heat'.

Solid wall homes are generally energy inefficient, having much lower SAP ratings than corresponding cavity constructed properties. An unfilled cavity wall loses approximately 35% of heat, however, a solid wall loses a staggering 45-50%.

There are two other major problems associated with solid wall properties - fuel poverty and health. Currently in the UK it is estimated that there are up to four and half million households in fuel poverty (which is the inability to afford sufficient fuel for a healthy comfortable home) and 66% over two and a half million, live in solid wall homes.

Some 83% of the fuel poor are vulnerable householders; older people, families with children and those who are disabled or have long term illness. An adequate temperature is taken to be the World Health Organisation standard of 21°C in living rooms and 18°C in other rooms. Despite the amount of energy work undertaken so far, when outdoor temperatures in the UK are 2°C or less, 18% of homes have living rooms below 16°C.

Many families do not and cannot spend enough to reach even the minimum standard and instead live in cold, damp homes which have repeatedly been linked to ill health and early deaths.

Furthermore, the continual fuel price rises over the past two years only worsen this already huge problem - an increase of 10% on gas and electricity prices will result in 400,000 households being put into fuel poverty.

Additional problems

Properties in rural areas have additional problems which increase the prevalence of fuel poverty - lack of access to the gas network, higher proportion of older properties of solid wall construction, higher proportion of detached properties with greater heat loss and a lack of good quality housing for those on low income.

Fuel poverty damages people's quality of life. The most direct effects are in relation to the health of people living in cold homes, older people, children and those who are disabled or have long term illness are especially vulnerable. It is estimated that the cost of treating cold related illnesses is over £1bn per year to the NHS.

Illnesses such as influenza, heart disease and strokes are all exacerbated by the cold. Exposure to cold results in a 30% increase in the death rate in the UK. There are over 60,000 cold related deaths through the year in the UK (Dept of Health 2001) and around 40,000 occur in Winter between December and March. Solid wall homes are also more prone to condensation, which results in black mould growth on the walls and ceilings, which is also a very serious health risk.

For solid wall homes there is now a system available which is easy to use, non disruptive and can be installed with tenants in situ or even on a DIY basis.

EST approval

Sempatap Thermal is approved by the Energy Saving Trust as an energy saving product and is an EST 'Recommended' product for the insulation of solid wall properties. The product is thermal insulation on a roll, as simple as wallpaper to apply and, at only 10mm thick, does not cause significant disruption during installation. It can be used for insulating solid walls as well as on ceilings - flat concrete ceilings, mansard roofs and dormer ceilings. It can be applied to all types of solid wall properties and there is also a variety for floors.

Firstly, prepare the walls to be insulated - if there is black mould growing on the walls and ceilings this must be treated strictly in accordance with MGC's specification for the eradication of mould growth.

Apply Sempatap Adhesive, which is low odour and water-based, by roller, brush or botched trowel to ceiling/wall surface. Only apply the adhesive to one drop length area at a time. For subsequent lengths, apply the adhesive not only to the wall/ceiling area but also to the edge of the previously hung length of Sempatap.

Apply foam side to the wall. Roll up the cut length with the foam side facing out. Apply the insulation to the wet adhesive at the top of the wall or at the junction of the ceiling and wall. Smooth out with light hand pressure. When in required position, apply firm hand pressure and, using Sempatap Spatula, smooth out any air pockets.

Simple application

Continue application until wall/ceiling is covered leaving a narrow gap 1-2mm between each drop. Using a Stanley knife or similar and the Sempatap Spatula as a straight edge, cut off any excess at ceiling level and at junction with skirting.

Gun Sempatap Sealant into all vertical joints and use to achieve a neat finish at wall/ceiling junctions and in window reveals.

Finally decorate. Sempatap Thermal can be decorated with virtually anything - emulsion, wallpaper, even tiles. It has a life expectancy of 30 years and can be redecorated time and time again. Sempatap Thermal is the economical, easy to use solution for insulating solid wall homes which provides warmer homes and helps to reduce CO2 emissions to combat global warming.