

Upgrading Attic Thermal Insulation

Background

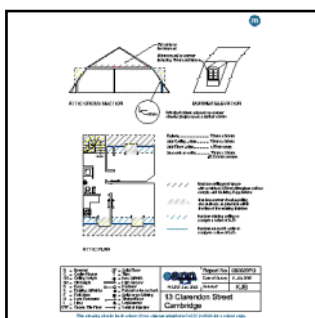
The property is a four-storey terraced Victorian house converted into a house for multiple occupation 15-20 years ago. The house is now being turned back into a family home.

Converting the building back into a single dwelling constitutes a change of use. The Local Authority therefore required insulation improvements to the roof/attic area.

An essential requirement of building insulation is to ensure that the fabric of the building is as well insulated as possible for the age and type to prevent excessive heat loss. This reduces the amount of energy required to provide heating which in turn reduces the use of fossil fuels and CO² emissions. The very low thermal conductivity of PIR (Polyisocyanurate rigid) insulation board enables low U-values to be achieved with the minimum of thickness. This allows maximum utilisation of internal space for a given 'building footprint'.



Front elevation



The Work Required

In order to improve the conditions in the bedroom and improve the Energy Efficiency for the house as a whole; top-up fibreglass insulation was needed in the roof void. The flank walls and the sloping ceiling sections also needed to be insulated. In consultation with the Local Authority Building Control department a scheme was formulated to produce a U-value for the sloping ceiling sections of 0.25 W/m²

The Schedule of work

Wall surfaces were prepared by removing any wallpaper and skirting boards and electrical fittings. The flank walls were lined with Knauff

Plus (a plasterboard /PIR insulation laminate) which then had a skim coat of plaster applied. The sloping ceiling sections and vertical dwarf wall of the attics were removed and insulated with Celotex PIR board, leaving an air gap. Timber battens, were fitted over the insulation at appropriate spacing to provide adequate fixings for plasterboard. Additional battens were required around all openings to provide fixings for linings and grounds for skirtings etc. The plasterboard lining was then fitted and skim finished. Skirting boards and electrical sockets were refitted.

To ensure that no condensation problems occurred within the roof structure which could ultimately lead to decay in the roof timbers, ventilation to the roof spaces had to be provided. This was achieved by working in conjunction with a local roofing contractor to fit ventilating slates.

Conclusion

The works have now been completed and approved by the Local Authority Building Control officer. The house is warmer and the bedroom much more comfortable for the occupier. Energy consumption and running costs are lower which makes the house a more attractive living prospect and also benefits the environment.

